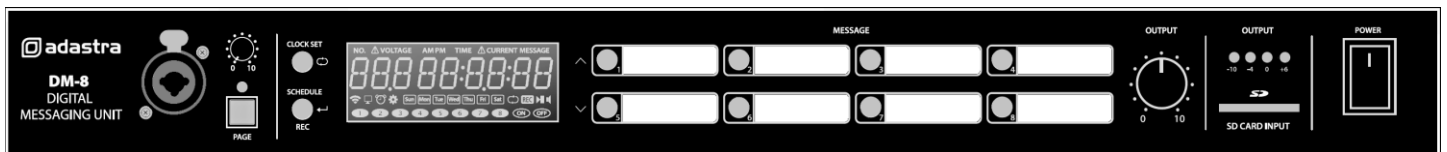


DM-8

DIGITAL MESSAGING UNIT

Item ref: 953.053UK

User Manual



Version 3.1



Caution: Please read this manual carefully before operating
Damage caused by misuse is not covered by the warranty

Introduction

Thank you for choosing an Adastra DM-8 digital messaging unit for scheduled music, announcements, and alerts in your public address system. This unit is designed to provide flexible and hassle-free automation of audio playback, fully programmable by the operator. Please read this manual to gain the best results from your product and avoid damage through misuse.

SAFETY SYMBOL AND MESSAGE CONVENTIONS



CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

AVIS
RISQUE DE CHOC ELECTRIQUE NE PAS
OUVRIR



This symbol indicates that dangerous voltage constituting a risk of electric shock is present within this unit



This symbol indicates that there are important operating and maintenance instructions in the literature accompanying this unit.



SAFETY NOTICE

1. Prior to use, read through this manual
2. Keep the manual in good condition
3. Pay attention to safety warnings
4. Observe all operating requirements
5. Do not use the device near water or wet areas
6. For cleaning, only use a lint-free, dry cloth
7. Install according to the specifications
8. Place away from heat sources or heating appliances
9. Use mains lead provided and avoid damage to cable or connectors
10. Unplug power from mains during stormy weather or if unused for long periods
11. In case of malfunction, water ingress or other damage, consult qualified service personnel
12. Do not place in damp areas or near liquids or moisture. Do not spill liquids on the housing
13. Please pay attention to warning symbols during transit and placement
14. Terminals marked with the ⚡ symbol are HAZARDOUS LIVE and should only be connected by qualified personnel
15. Ensure that the apparatus is connected to a mains socket with a protective EARTH connection
16. Ensure correct operation of the mains switch

Warning

To prevent the risk of fire or electric shock, do not expose any components to rain or moisture. If liquids are spilled on the casing, stop using immediately, allow unit to dry out and have checked by qualified personnel before further use. Avoid impact, extreme pressure or heavy vibration to the case
No user serviceable parts inside – Do not open the case – refer all servicing to qualified service personnel.

Safety

- Check for correct mains voltage and condition of IEC lead before connecting to power outlet
- For DC power, use a stable 24Vdc supply connected to the 24Vdc power terminals on the rear panel.

Placement

- This unit can be used free-standing or fixed into a 19" rack
- Ensure adequate support and access to controls and connectors when rack-mounting

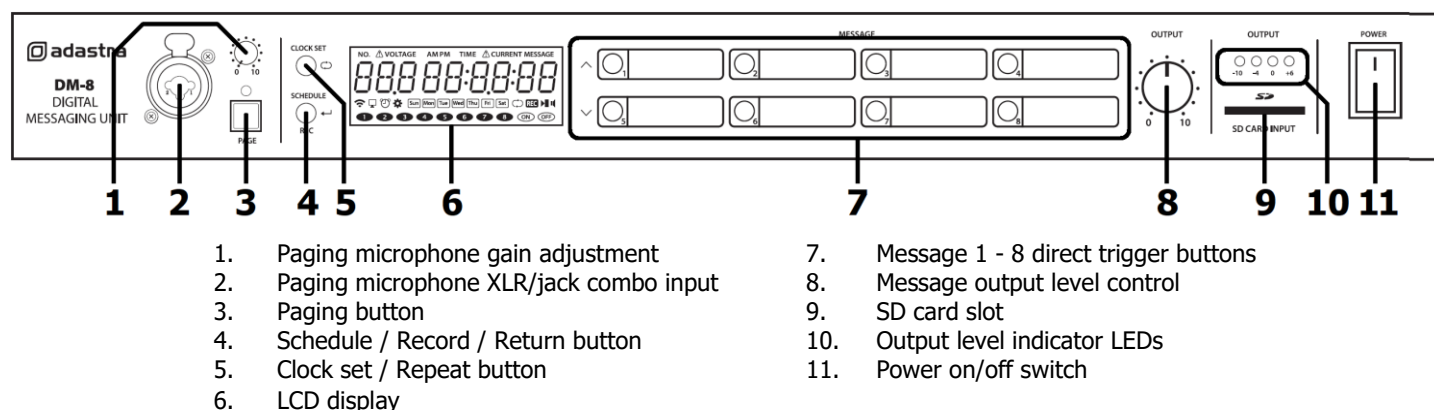
Cleaning

- Use a soft cloth with a neutral detergent to clean the housing as required
- Do not use strong solvents for cleaning the unit

Firmware upgrading

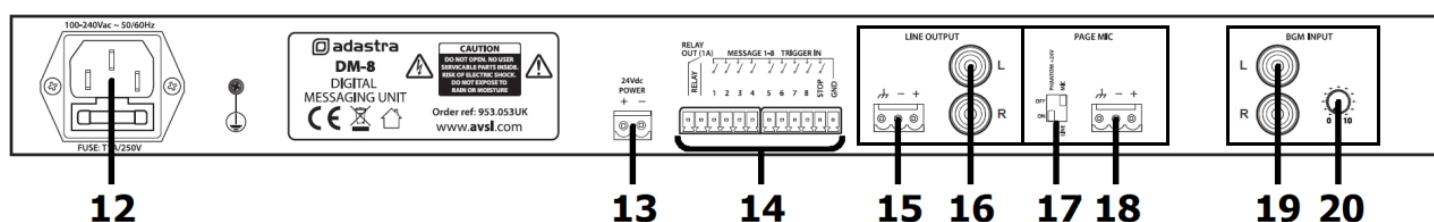
- A USB port is included on the rear panel to enable future firmware upgrades as they become available

Front panel



1. Paging microphone gain adjustment
2. Paging microphone XLR/jack combo input
3. Paging button
4. Schedule / Record / Return button
5. Clock set / Repeat button
6. LCD display
7. Message 1 - 8 direct trigger buttons
8. Message output level control
9. SD card slot
10. Output level indicator LEDs
11. Power on/off switch

Rear panel



12. IEC mains inlet and fuse holder
13. 24Vdc power terminals
14. Message 1-8 trigger & RELAY terminals
15. Balanced line output (screw terminals)
16. Unbalanced line output (2 x RCA)
17. Phantom power & mic/line level DIP switches
18. Paging microphone or line input (screw terminals)
19. BGM background music input (RCA L+R)
20. BGM background music output level

Preparing the SD Card

The DM-8 message player requires an SD card (or microSD with adaptor) to read the message and schedule information from. The SD card should be formatted to FAT32 and is recommended to be between 4GB and 32GB in capacity.

NOTE: It is necessary to use a new or completely blank SD card. If re-using an existing SD card, it must be fully formatted using the application called **SD Memory Card Formatter**, which is available at the sdcard.org website.

The standard "Format" function provided by your PC operating system does not always remove all of the data and the SD card might not work with the DM-8.

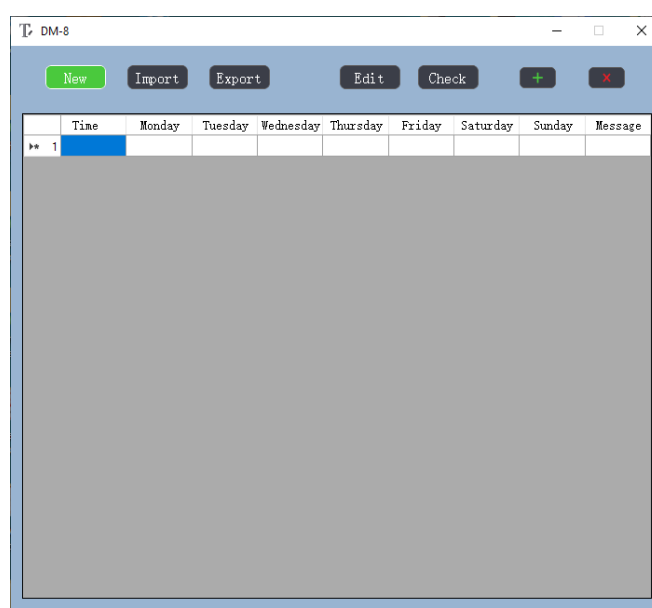
If pre-recorded messages are to be used, these must be in standard mp3 audio format and stored to the root folder of the SD card with file names as follows...

"**M001.mp3, M002.mp3, M003.mp3... M099.mp3**"
... for up to 99 message tracks.

The message tracks must be stored into a folder called **MESSA**, which itself needs to be in the root folder of the SD card, for the DM-8 to recognize them.

The message schedule must be stored on the SD card as a text file, named as **schedule.txt** which can be created using the free **DM8_Schedule_Editor.exe** application.

This application is downloadable from... http://www.avsl.com/assets/downloads/953053UK_software.zip and runs without installation on PC computers running Windows XP and above.

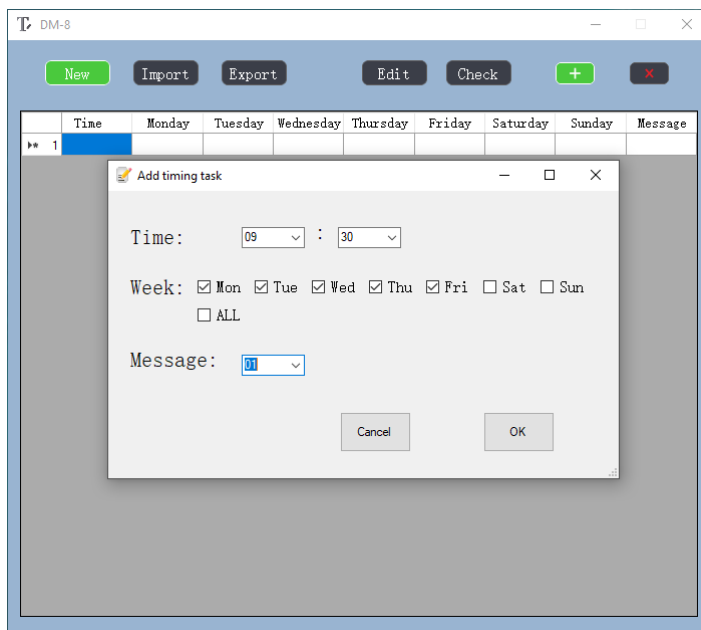
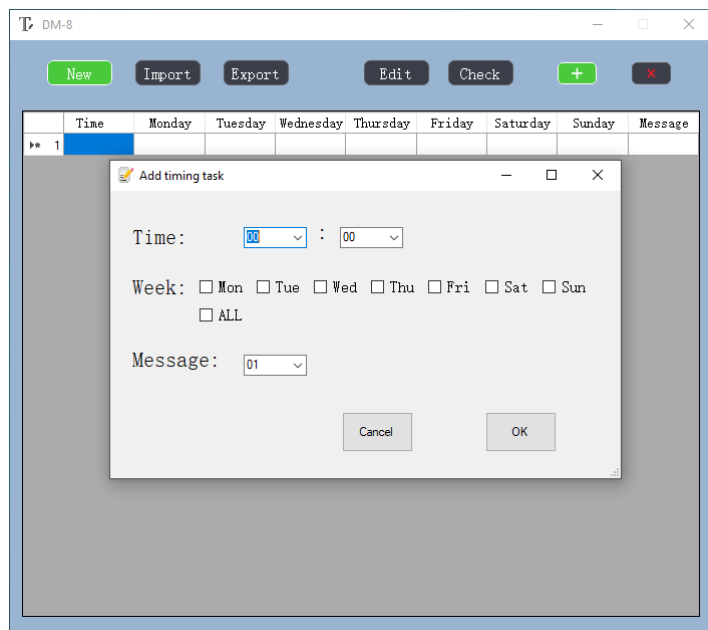


Save the software file to either the SD card or onto the PC and double click this .exe file to run from the stored location. Any schedules that are created and exported will be saved to the same directory. The opening window of the **DM8_Schedule_Editor.exe** application is a new blank schedule, which can be edited, exported, imported (from a previously made file) and saved as a backup or copy. A new schedule can be opened at any time by clicking "New".

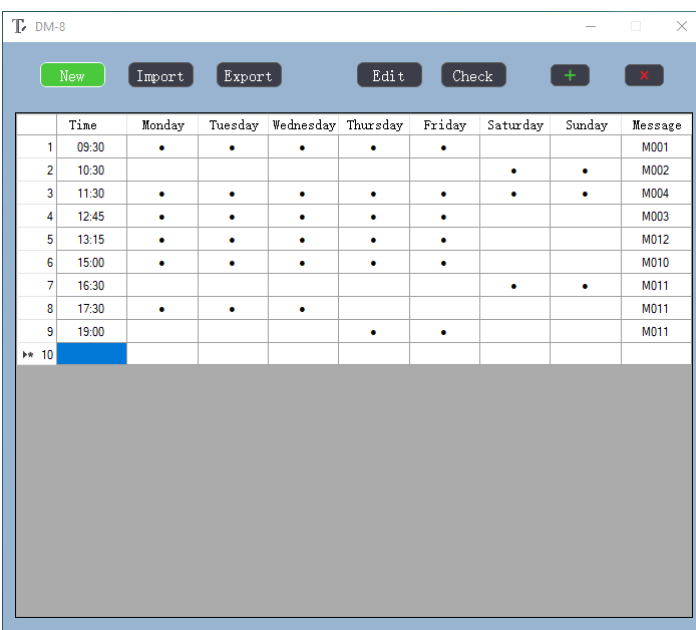
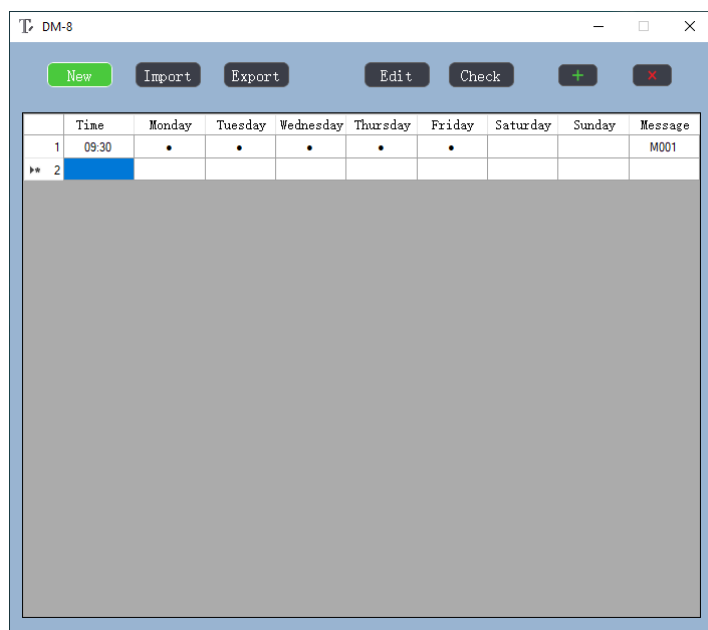
To begin creating a schedule.txt file, click on "Edit" or double click the highlighted "Time" field. This will open the event editor window as shown below.

Edit the required time of day by clicking in the hour and minutes fields and entering the values directly - or - select from the drop-down arrow to the right of each field.

Next, click on the days of the week that this event will occur on (click on ALL to fill in every day quickly if preferred). Finally, select the message that will be triggered on these days at the selected time from 001 to 099.



When the time, days and message are set, click on OK and the window will return to the schedule list showing the newly set event. The next line down will be highlighted, and the process can be repeated for up to 99 schedule events.



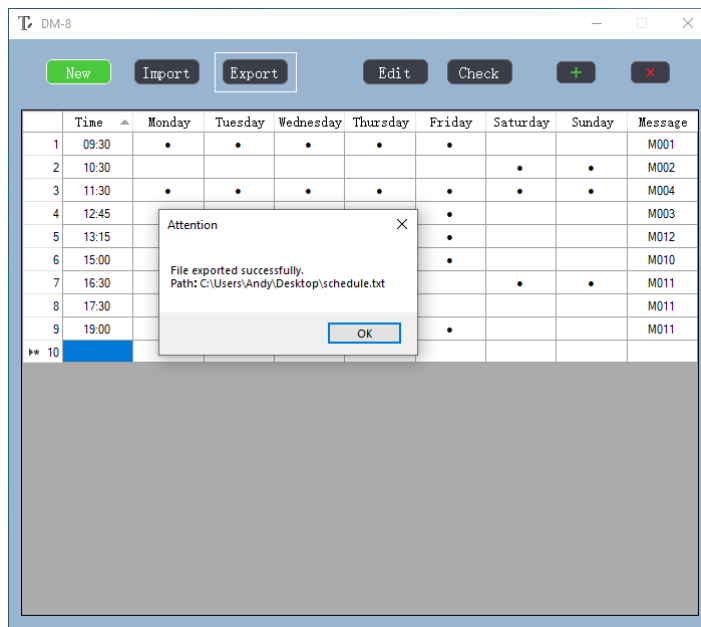
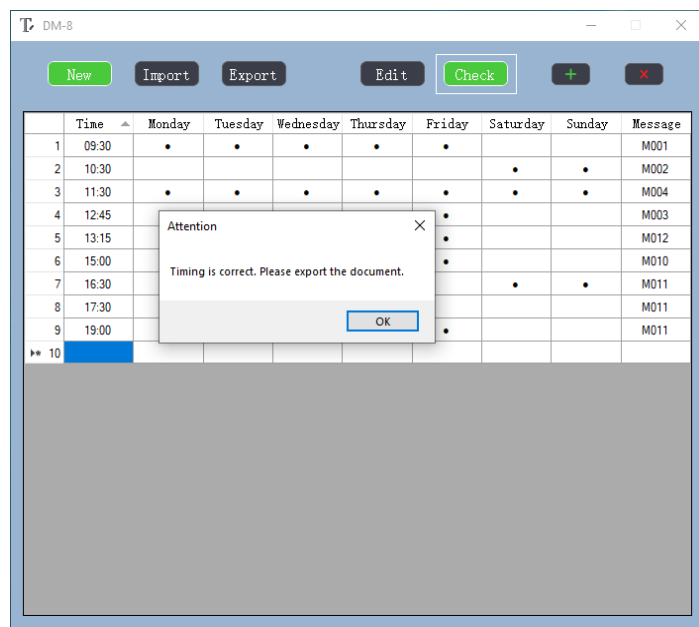
Each event will be displayed as a line until all required message events are completed.

Any event can be further edited by selecting it and clicking Edit or by simply double clicking on the line of that event. Over-write any of the settings and click OK again to save the changes.

Any event can also be deleted from the schedule by clicking the red **X** or another event added by clicking the green **+**.

NOTE: Ensure that the schedule file is only set to trigger mp3 files that exist within the **MESSA** folder.
If the schedule is set to trigger any mp3 files (**M001 – M099**) that are missing from the **MESSA** folder, this will result in a read error (this is shown by a "READ ERR" message after the startup cycle).

Once all event settings are finalized as required, click on "Check" to verify that all the event timings are set correctly. This will display the message "Attention Timing is correct. Please export the document". Click OK to close this window.



To create the **schedule.txt** file, click "Export". This will display the message "Attention File exported successfully" with the file path (in the same directory as **DM8_Schedule_Editor.exe**). Click OK to confirm again. The resulting text document **schedule.txt** can be opened in a notepad editor to check and edit if required. This can be stored on the PC and can even be re-edited in the schedule software by clicking on "Import" and browsing to the file.

The format of the schedule.txt document is Time,Days,Message (all separated by commas only - an example is shown opposite)

The Time format is 4-digit, 24-hour (midnight = **00:00**)
The Days are abbreviated to the first 3 letters (Monday = **Mon**)
The Message is the file name without **.mp3** (message 1 = **M001**)

If preferred, the schedule file can be written from scratch without the editor software by using a text editor or even using a spreadsheet editor (as a .csv file and then converted to a .txt file) Each event must be on a separate line and must not have spaces.

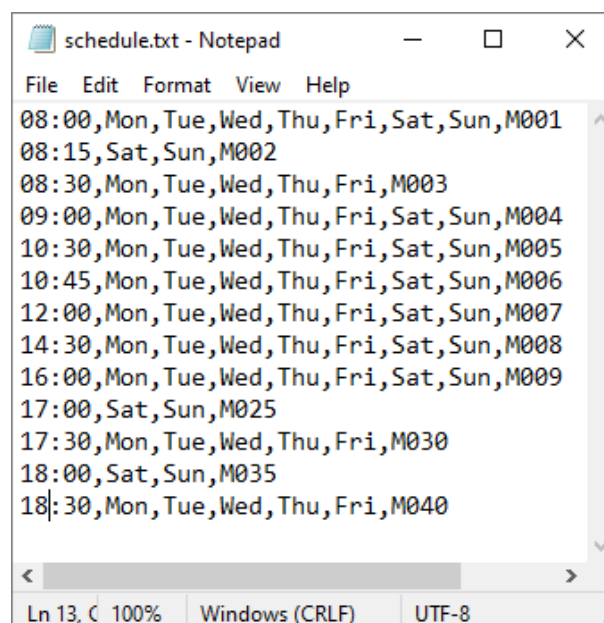
If the schedule is to be edited or written in a text editor (such as Notepad), it is imperative to keep the same format and not add spaces or alter punctuation, as this would make the file invalid.

This file must be saved to the root folder of the SD card.
The file name must be **schedule.txt** for the DM-8 to recognize it.

The DM-8 looks for the **schedule.txt** file on power-up and reads it to set up the message playback schedule.

This is in addition to the message mp3 files mentioned at the start of this section.

NOTE: If any manually entered events coincide at the same time, this will result in a "READ ERR" message on startup. **DM8_schedule_editor.exe** will pop up a warning if any events clash in the schedule and highlight them in red.



Connection and Setup

Ensure the Power (11) is switched off until all input and output connections are in place. Turn the OUTPUT LEVEL (8) and rear BGM level (20) fully down (anti-clockwise) as a precaution before switching on.

Insert an SD card or microSD with adaptor (4-32GB recommended) formatted to FAT32 (using the "SD Memory Card Formatter") that has been prepared with the **MESSA** folder containing mp3 files and a **schedule.txt** file as described above into the SD slot (9)

Connect a line output either from balanced terminal (15) or RCA (16) on the rear panel to a line input on the mixer or amplifier of the public address system.

Note: This output is mono. To feed the output from the screw terminals to both sides of a stereo system, it is necessary to connect the screw terminal output to both Left & Right inputs on the receiving mixer or amplifier.

A mic/line input for live announcements or recording messages is connected via rear terminals (18) or front XLR (2). There are 2 DIP switches (17) to select mic or line level and whether +20V phantom power is enabled for this input. For a connected microphone, select MIC level and if it is a condenser type which requires phantom power, set PHANTOM to "on". For a line level signal (such as a CD or mp3 player or even another DM-8), select LINE level and PHANTOM to "off".

If background music is to be played in the listening area, connect the background music source to the BGM INPUT (19) RCA sockets. This input is governed by its own volume control (20) and is overridden by the messages and paging input.

For remote triggering of messages 1 to 8 (**M001.mp3** to **M008.mp3**), screw terminals on the rear panel (14) can be connected to switches. The function of these is described in detail on the following page.

Connect the rear IEC inlet (12) to a power outlet using the supplied mains lead (or an equivalent approved type). If 24Vdc power is to be used, connect this to the 24Vdc POWER +/- terminals (13)

Initial Checks

Ensure that level controls are turned down on connected PA equipment and switch on power to the DM-8 (11) The display will light to confirm power is on.

Turn up the OUTPUT (8) and check the MIC/LINE input (2) by pressing the PAGE button to "on" (3) so that the indicator is lit, and then speaking into the mic or playing audio whilst turning up the MIC/LINE level control (1).

NOTE: The MIC/LINE input has the highest priority and will temporarily suppress the output level of message playback and BGM input when the **PAGE** switch is active and a mic or line signal is present on the MIC/LINE input.

To check playback of messages or music from the SD card, there will need to be mp3 audio tracks stored in a folder named **MESSA**. Each file needs to be stored with the naming format "M001, M002, M003 ... M099" as described above for the DM-8 to recognize it. The first 8 messages (**M001.mp3** to **M008.mp3**) can be played back directly by pressing buttons 1 to 8 on the front panel (7).

When first switched on with the prepared SD card inserted, a startup screen will read "READING M / READING S". This process must be completed before any schedule or playback can begin. If this repeats continually for more than 1 minute, power down and try again after 10 seconds. There will be some switching sounds from the unit, which is normal. When the startup is completed, the display will show the number of messages stored and then show the current time.

To test the DM-8 playback, you can save a new folder to the SD card named **MESSA** containing any mp3 renamed as **M001.mp3**. Insert the SD card into the DM-8, power it up and wait for the startup to finish "READING M / READING S" Press the "1" button to check playback of **M001.mp3** and if unsuccessful, remove the SD card and re-check the content. Playback of messages is still possible from the 1-8 message buttons (7) if there is no **schedule.txt** file on the SD card.

If background music is to be played through the DM-8, check this with the OUTPUT (8) turned up part way and the BGM volume control (20) up part way to ensure that the audio signal is connected properly.

After the initial checks are successfully completed, adjust the MIC/LINE, BGM and OUTPUT level controls as required for the correct balance.

Setting the Current Time and Day

To set the current time/day, hold down the CLOCK SET (5) for 5 seconds and the hour characters will flash in the display. Message number 1 and 5 buttons will now operate as up (^) and down (v) buttons for the number setting.

Adjust the hour setting using the ^ and v buttons, then press the SCHEDULE/REC button to move to the minutes setting. Adjust the minutes setting using the ^ and v buttons, then press the SCHEDULE/REC button to move to the day setting. Adjust the day setting using these ^ and v buttons and then press the SCHEDULE/REC button to complete the time setting process.

Pressing the CLOCK SET button at any point above will also complete the current time and day setting process.

Recording a Message

As described above, any mp3 file can be re-named to "M001...M099" and stored in the **MESSA** folder on the SD card.

Alternatively, any of the first 8 tracks can be recorded directly from the Mic/Line input (2) as follows:

1. Press the PAGE button (3) in to the "on" position (the LED will illuminate & the MIC/LINE input will become live).
2. Press the REC (4) button and the word "REC" will flash in the display.
3. Select a number from 1 to 8 on the message buttons (7) and recording will commence for that message number.
4. When recording starts, begin speaking into the microphone (or playing audio) connected to the Mic/Line input.
5. A timer will display elapsed minutes and seconds during recording.
6. Press the REC button or PAGE button off when finished to store the recording in the selected message number.
7. Press the selected message number button to play back the recorded audio back for checking.

Playback of Tracks

To play any of the first 8 tracks M001 - M008, press the relevant direct trigger button for that message (7). There is a white strip next to each direct trigger button on the front panel for labelling if required.

During playback, a ► symbol will be shown in the display and the output indicator (10) will show the level at the output. Pressing the PAGE button (3) will stop any message playback (this will activate the MIC/LINE input – pressing again will deactivate it). If any message button is pressed whilst a message is already playing, it will override the current message.

The CLOCK SET button (5) is also a REPEAT () button. Pressing this briefly before or during playback will cause the symbol to show in the display and the current playing track will loop continuously until either the CLOCK SET button is pressed again, which will end the repeating function, or if the PAGE button is pressed, the track will stop immediately.

In addition to control from the front panel, screw terminals numbered 1 to 8 are provided on the rear panel for remote playback (14). Connecting one of these terminals to the GND (GrouND) terminal via a momentary switch will initiate playback of that numbered track whenever the switch is closed.

(e.g. wiring the "7" and Ground terminals to a push-to-make switch will cause M007 to play when the switch is pressed) If the switch is held closed (as with a latching switch), the track will play repeatedly, retriggering until the switch is open.

If connecting the DM-8 to a fire or security alarm panel with a trigger voltage output, use a relay switch that operates at the appropriate trigger voltage to close the required contacts when the alarm is activated.

The message priority is fixed as 1>2>3>4>5>6>7>8, with lower numbers overriding higher numbers if both connected to GND. Wiring a momentary switch to the STOP terminal and Ground will provide a switch to stop all playback.

The 2 leftmost screw terminals are a pair of RELAY contacts which are closed when any message is playing back. This can be used to complete a circuit for a lamp to act as a visual message indicator or for any other device up to 1A current.

The tracks and schedule are played directly from files stored on the inserted SD card and not read into internal memory on the DM-8. Removing the SD card will stop all functions and the display will show that the notification "No SDCARD".

Viewing the Schedules

The DM-8 can be automated to play back of any of the 99 tracks in the **MESSA** folder at a pre-set time on selected days of the week. There are no special limitations on the message mp3 content, so this could be an announcement, sound effect or even a full music mix.

The schedule must be programmed or edited on a PC as described in the "Preparing the SD Card" section above.

To check that the **schedule.txt** file has been correctly read by the DM-8, the schedules can be viewed on the LCD display. To do this, hold down the SCHEDULE/REC button (4) for 5 seconds and use the number 1 (^) and 5 (v) buttons to step through the schedules that are currently active on the DM-8.

These show the time, day(s) and message number that will be triggered at that time.

NOTE: The schedule cannot be edited directly on the DM-8.

Powering Down

To avoid any loud transients through the connected PA system, it is recommended to stop any playback and turn down the Mic/Line, BGM and OUTPUT level controls as a precaution.

Page/Rec, Mic, Clock Set, Schedule, Message 1-8, Output, Power on/off

Specifications

| | |
|---------------------------|---|
| Power supply | 100-240Vac, 50/60Hz or 24Vdc |
| Fuse | T1AL, 250V |
| Inputs | XLR or terminal (bal/unbal) mic/line and BGM line input (RCA) |
| Audio source | Internal SD card player |
| Time setting | 99 programmable schedules - 24 hour + day(s) setting |
| Outputs | Mono balanced terminal or unbalanced RCA |
| Mic/Line channel controls | Mic/Line level, Phantom power on/off (DIP switches) |
| Phantom power | +20V |
| Input impedance | 2.2k Ohms (mic/line) |
| Controls | Page/Rec, Mic, Clock Set, Schedule, Message 1-8, Output, Power on/off |
| Trigger | Message 1-8, Stop & Ground contacts |
| SD card requirements | 4-32GB FAT32 (full size or with adaptor) |
| Dimensions | 483 x 150 x 44mm |
| Weight | 1.65kg |



Disposal: The "Crossed Wheelie Bin" symbol on the product means that the product is classed as Electrical or Electronic equipment and should not be disposed with other household or commercial waste at the end of its useful life. The goods must be disposed of according to your local council guidelines.

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