



**DAN MURPHY'S
FORMAT MASTERPLAN 2022.1 KIT
LARGE STORE FORMAT
PA SYSTEM SPECIFICATION**

REVISION A
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REVISIONS

AMENDMENT	DATE	REVISION
GENERAL ISSUE	2021/10/20	A

CHANGES

SECTION	DESCRIPTION
3.10 BACKGROUND MUSIC	Endeavour Group to supply and install.
3.11 COLOUR FINISH	New requirement.
3.12 REQUIREMENTS FOR STORES UNDERGOING RENEWAL	New requirement.
General	Deletion of Customer Service Call System
General	New Public Address Layout, DME606

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1. PREAMBLE

This Specification sets out the requirements for the supply and installation of a public address (PA) system for a Dan Murphy's store. The PA system specified within this document is to provide a means whereby background music can be distributed throughout the premises of a Dan Murphy's store. This function shall be overridden where necessary to allow:

- Public announcements
- Staff movement calls
- Promotional announcements
- Evacuation warnings

This PA Specification shall be read in conjunction with the other elements of the issued Design Brief prepared by Endeavour Group and the standard PA services drawings.

2. GENERAL CONDITIONS OF CONTRACT

2.1 DEFINITION OF TERMS

- “Proprietor” shall mean Endeavour Group, owner of Dan Murphy’s stores.
- “Builder” shall mean Building Contractor carrying out the general building work.
- “Electrical Contractor” shall mean a subcontractor of the builder or Proprietor carrying out the major electrical contract.
- “Contractor” shall mean the successful tenderer selected to perform the works described in this Specification.
- “Engineer” shall mean Endeavour Group Engineer or their nominated representative.
- “Approved” shall mean approved by Endeavour Group irrespective of any trade usage.
- “Project Manager” shall mean nominated manager approved by the Proprietor.
- ACMA - Australian Communications & Media Authority

2.2 SCOPE OF WORKS

The works covered by this Contract shall comprise the supply, delivery to site, installation, testing and commissioning, and warranty of the following services:

- Basic Public Address System covering the areas shown in the accompanying drawings.
- Tone generators to sound alert and evacuation warning tones.
- Tone generators to sound staff time chimes.
- Microphones of the type specified in the location shown.
- All necessary wiring hardware and fittings.
- All switching necessary to allow microphones and tone generators to override the background music.
- Re-commissioning of PA system once store is in trading period to ensure audio and music level is correctly set for effective performance.

2.3 EXTENT OF CONTRACT

Supply and install a complete Public Address System. The system shall incorporate a master equipment rack/amplifier unit and all necessary equipment for the operation of the total system including microphones, speakers and background music.

The system shall be fully installed and commissioned four weeks before the commencement of trading.

Tender submission shall include the name and contact numbers of the actual contractor who will carry out the installation and maintain the system for the warranty period of twelve (12) months.

2.4 WORK BY OTHERS

- Provision of conduits and cable support systems in accordance with standard details.
- Provision of a double power outlet at the amplifier point.
- Provision of a data point for connection to the music player.
- Provision of a data output for 'PA PAGING'.

2.5 TIMING

The Contractor shall liaise with the builder and Electrical Contractor to ensure that wiring and equipment is installed at appropriate time. The work shall be scheduled so that the system is complete and commissioned no later than the end of the fitout period. Approximate dates for this will be indicated at the date of tendering. Timely warning of any factors likely to cause

delays shall be given to the Proprietor.

2.6 REGULATIONS AND FEES

All work performed under this Contract shall comply in every respect with the rules and regulations of all properly constituted Authorities having jurisdiction over installations in the district under consideration. The Contractor shall obtain all notices, obtain all consent necessary for the various works to be performed and pay all fees required by these Authorities.

2.7 GST

The contractor shall provide the price ex GST, where applicable.

2.8 PATENT RIGHTS

The Contractor shall pay all royalties due, and these shall be included as part of their Tender. The Contractor shall fully indemnify the Building and the Proprietor against any action, claim or demands, costs or expenses arising from any infringement of letters patent, patent rights and design, trademarks or name, copyright or other protected means in respect any plant, work, materials or thing, system or method arising out of the work or supplied by the Contractor or their subcontractors.

2.9 STORAGE

The Contractor shall be completely responsible for storage and protection of all plant, materials and equipment in connection with the works. For works associated with refurbishment of existing stores, the Contractor shall allow for their own storage space. The store will not provide storage space for the works.

2.10 WARRANTY

The warranty on the completed installation shall run for twelve (12) months from the date of store opening. Fault attendance shall be provided 24 hours per day, 7 days a week.

2.11 GENERAL PUTTING INTO SERVICE

The Contractor shall ensure that a qualified technician familiar with the project is on duty at a time convenient to the opening manager to demonstrate and explain the operation of the system. The contractor shall clean up the site and remove all surplus material and equipment prior to store opening.

The Contractor shall have a technician in attendance for the whole of the store opening day who shall attend to any adjustments necessary or malfunction of the equipment.

2.12 INSURANCE

The contractor is required to ensure that the following insurance policies are current and to provide certification of such policies on demand:

- Public Liability – not less than \$20,000,000 cover
- Contractors All Risk – total contract value covering material in store, in transit and on site.
- Workers Compensation – unlimited common law cover.

3. TECHNICAL REQUIREMENTS

3.1 SYSTEM DESIGN

The system shall be designed to provide as a minimum all facilities as specified and as shown on the Dan Murphy's standard drawings. Locations for microphones, push buttons and the amplifiers are not to be changed without the permission of the Engineer.

Speaker locations shown are the minimum for the standard size store shown on the drawing. Speakers shall not have a coverage area exceeding 64m². However, it is the responsibility of the PA Contractor to ensure that the PA coverage of the area is completely adequate. Furthermore, it is a requirement of this specification that the equipment shall provide an output level, when the evacuation alarm button is pressed, which meets the requirements of AS1670.4-2018. Speakers shall not be located over fixtures, gondolas, and display cases etc.

3.2 AMPLIFIERS REQUIREMENTS

Amplifiers shall have the following characteristics.

- 1) Solid state circuitry using components readily available from multiple sources in Australia.
- 2) Frequency response: 50 Hz – 16kHz +/-2dB.
- 3) Bass and treble controls at 100hz bass – boost + 12db – cut – 14db. Treble – boost + 10db – cut 1-db.

All equipment used shall be new, free of paint and engraving defects and supplied with black fascia as a standard on all front panels. All cable entries will be fitted with suitable glands or cable clamps on flush mounting electrical plates to ensure a neat and tidy appearance is maintained. All cables will terminate to suitable connectors direct onto the mixer and amplifying equipment.

3.3 MIXER REQUIREMENTS

The mixer shall be suitable engraved on front and rear to indicate all controls and connectors. All inputs and outputs will be suitably isolated and fitted with RF protection filtering as required by ACA regulations. Five levels of priority shall be provided as a minimum. These being:

- | | |
|---|--------------------------------------|
| • Front end service desk microphone location | Priority 1 |
| • Alarms & chimes | Priority 2 |
| • All other office and trading area microphones | Priority 3 (incl optional radio mic) |
| • Phone paging | Priority 4 |
| • Background music | Priority 5 |

Separate inputs for two microphone channels, tone generators and background music. Separate level controls shall be provided for each input, and those for the tone generators shall be either preset and lockable at not less than 10db(A) above the maximum normal ambient sound level or located where they are not subject to interference.

The mixer shall have the following features: -

- 6 x input mixers mic or line
- 1 x background music input
- 1 x auxiliary input
- 1 x three note chime of staff lunch bell
- 1 x alert and evacuation tones complete with adjustable change over timer set at 60 secs, between alert and evacuate to operate from pushbutton switch at Service Desk.
- 1 x balanced output to match the input requirements of the booster amplifier
- 1 x input terminals for the connection from remote locations of chime and Evacuation

control switches.

All inputs shall be fitted with their own front panel mounted volume control. As adjustable attenuation input to be selected for microphone or auxiliary. The mixer shall be capable of being run from 24 Volts DC or 240 Volts AC mains power.

3.4 AMPLIFIER

The amplifier power rating shall be calculated to provide power to the store speaker system at 2.5 Watts per speaker plus an additional 20%.

The speaker system shall be designed around the use of 100 Volt lines.

The booster amplifier shall be rack mounted and capable of being run from 24 Volts DC or 240 Volts AC mains power. All fuses shall be panel mounted with the current values engraved. The amplifier shall be protected against overload and short circuits. Distortion shall be equal to or better than 0.5% THD.

3.5 LOUDS PEAKERS

3.5.1 TRADING AREAS

Trading area speakers shall be 200mm dia wide range twin cone 5 Watt speakers fitted with integral line transformers and cable terminations. Transformers to have taps at 0.5, 1 2, 3.5 and 5 Watts.

Speakers shall be at 8 Ohm impedance, have a 5 ounce magnet minimum and a frequency response equal to or better than 85 Hz to 15 kHz and a SPL of 93db at 1 Watt at 1 metre. A minimum of 5 speaker taps will be provided on the line transformer.

The speakers shall have a maximum impedance at full rating 2000 ohm. Speakers shall be installed with flush low profile, round speakers grilles with 60% min open grille and complete with covers to conceal the mounting screws. Mounting to ceilings shall be by approved fixings suitable for the ceiling material.

Speakers and their associated grilles and covers shall **be black in colour where ceiling is of a dark colour, and white where ceiling is of a light colour** – this requirement is applicable to both recess mount and pendant type speakers installed in trading and cashier areas.

Liaise with the Builder regarding the provision of speaker holds.

3.5.2 BACK DOCK AND STOCK ROOMS

Speakers shall be 200mm wide range twin cone speakers fitted with integral line transformers and cable terminations.

Speakers shall be mounted into suitable enclosures and fitted with flush low profile white, round speaker grilles complete with covers for mounting screws.

Speakers are to be mounted to overhead purlins or wall in positions protected from damage. Mounting positions and fixings are to be such that cables and speakers are protected against damage by the displacement or loading of stock, etc.

Initial speaker settings shall be on the 2.5 Watt tap.

3.5.3 TEAM ROOM, OFFICE AND AMENITIES AREAS

Speakers shall be the same as used for the trading areas, with the exception that speakers are to be **white** in colour. Team room and offices are to be fitted with wall

mounted vertical volume controllers engraved as to their function. Staff room volume controls are to be fitted with an additional resistor to prevent the control from being turned completely off. Speakers are to be initially set on the 1.25 Watt tap.

3.5.4 MISCELLANEOUS AREAS

Plant rooms – to be fitted with Horn Speakers. Speakers are to be initially set to the 5 Watt tap in noise areas.

3.6 EVACUATION WARNING & CHIME CONTROLS

The Contractor shall supply and install a 2-push button station at the Service Desk. The push buttons shall be housed in a PVC enclosure. Push buttons shall be recessed type or having a cover to prevent inadvertent activation.

The chime button is to be a recessed momentary GREEN press button to energise the chime tones from the mixer. The evacuation alarm button is to be a recessed momentary RED press button to energise the alert and evacuations tones. Suitable traffolyte labelling shall be provided with the following texts: "CHIME" for green press button, "ALARM" for red press button.

Wiring is to originate from the master equipment rack position and the final location is to be confirmed prior to installation.

3.7 MICROPHONES

All microphones shall be installed to the positions as indicated on the drawings. Microphones shall be a rugged round cylindrical machined metal construction with integral press to talk button and spring coiled flex.

All components used in the hand-held microphone are to be fully serviceable. This includes the black flexible cord and wide range dynamic insert.

Design of the microphone shall be such that noise cancelling is achieved via machined side ports.

Termination will be via Alcatel 5 pin connector with locking facility.

An integral wall mounting kit is to be provided and fixed into position adjacent to the microphone outlet.

3.8 CABLING

3.8.1 GENERAL

All cablings shall be run in designated ducts, conduits and wall boxes. Cabling shall not be run sharing the same tray/ducting as lighting, power, filtered power, data, security and telephone cables. Supply and install additional conduits and ducts in areas where wiring will be exposed. Where cable tray or ducting is not available, cable shall be installed in a tidy manner and fixed with cable ties to ceiling suspension hangers approximately 300mm above banana clips. Cable shall not be stretched between tie points. Under no circumstances shall wiring be run with other services cabling or fixed to other services. Wiring shall not be draped across plasterboard ceilings or tiled ceilings.

3.8.2 SPEAKERS

Speakers shall be wired in two zones. These being the trading area as one and the remaining offices, toilets, plant rooms and dock areas as the second. Each zone is to be separately wired back to the master equipment rack position.

All cables shall be **BROWN** double insulated 24/020 figure 8 flex 240 Volt rated with a

discernible identifying trace. Cables are to be installed and secured clear of the ceiling and terminated with a one metre tail adjacent to each speaker.

3.8.3 MICROPHONES

Microphones shall be wired in ACMA approved Belden 8723 data grade cable, specifically Belden Analog Audio Cable 2pr 22g foile shield CH, product code 8723 0601000 or equivalent. The microphone at the Service Desk shall be wired to the priority (one) microphone circuit. All other positions shall be wired in the second circuit. No cables are to be joint other than at microphone outlet locations or the master equipment rack location.

3.8.4 ALARM AND CHIME SWITCHING

1 only 14/020 4 core brown cable is to be installed between the master equipment rack location and the service desk control position.

All cables are to be installed in conduits or ducts in areas where mechanical damage may occur. Conduits are not required where cables are installed in cavity walls or metal ducts.

Microphone cables shall not be run adjacent to high voltage cables or parallel to AC cables for more than two metres unless in metal duct.

All cables are to be installed to AS/NZS 3000 and ACMA regulations.

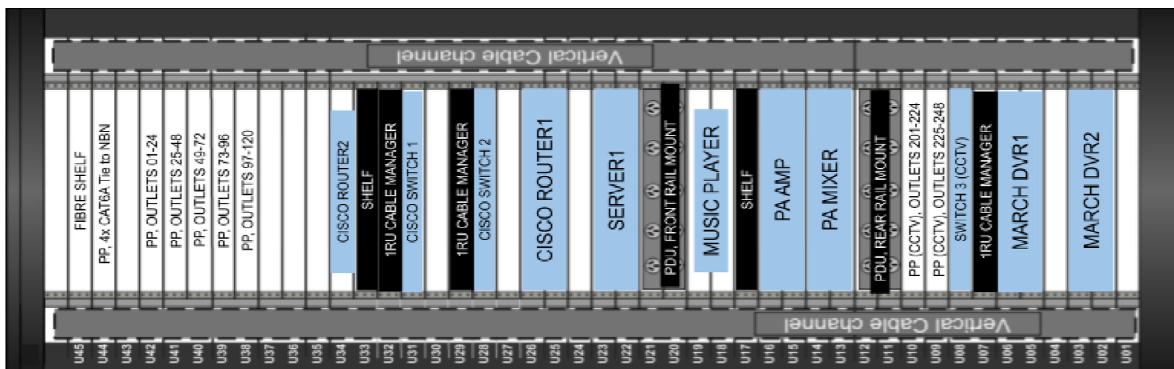
3.9 PA FRONT-END EQUIPMENT LOCATION

PA front-end equipment shall be housed in the SCS BD data cabinet in their designated space. The SCS BD cabinet shall be supplied and installed by others.

Cabling shall be enclosed in 25 mm flexible PVC conduit or spiral cable loom tubing.

Two (2) Line Isolation Units (LIU's) shall be supplied and installed, one for PA paging and one for music on hold.

Example of SCS BD Cabinet and Designated Slots for PA Equipment.



3.10 BACKGROUND MUSIC

Endeavour Group will arrange and pay for the supply and installation of the background music system.

3.11 COLOUR FINISH

Where stores have an exposed ceiling, all PA ceiling services in trading areas shall be of a colour to closely match that of the ceiling finish. That is, components such as speakers, power

cords, cables, supports, etc... that are open to view shall be of a colour similar to that of the ceiling structure, for example components to be black for a dark finish ceiling, likewise to be white for a lighter colour ceiling.

3.12 REQUIREMENTS FOR STORES UNDERGOING RENEWAL

The Contractor shall allow the below works as a minimum for stores undergoing renewal:

- 1) New microphones to the new service desk and new cashiers as per the standard PA services drawings.
- 2) New evacuation warning and chime button station at the new service desk.
- 3) New speakers, microphone outlets and volume control points across all store areas where these services are missing or not available in accordance with the standard PA services drawings (.e.g. trade and back-of-house areas). This requirement applies to all areas whether undergoing renewal or not.
- 4) New speakers where the ceiling is re-painted, note that speaker grilles shall have protective covers to avoid being painted over and only be removed once ceiling work is completed. Existing speakers in remaining areas can be retained but shall be replaced if faulty or if sound quality has degraded.
- 5) New mixer and amplifier should the existing units are found to be faulty or degraded in audio output quality.
- 6) Carry out testing and commissioning work to ensure the PA system in its entirety, operates effectively across all areas.

The PA Contractor is to survey the store and allow in their tender prices for the above items. All works items shall be clearly stated in the tender submission for evaluation and approval by the Project Manager.

3.13 TESTING AND COMMISSIONING

The Contractor shall carry out tests required by the Proprietor to prove that the works comply with the requirements of this specification. Payment shall be withheld until tests are satisfactorily completed.

Testing shall include but not be limited to the following items:

- Sound level tests including the adjustment of speaker levels
- Indicator and control testing including tone control settings for mixer
- Testing of alarm initiating switches
- Testing of program and priority override facilities.
- Testing of background music

Any test equipment, e.g. sound level meters, shall be provided by the Contractor. Should any test fail, the cause of failure shall be determined and corrected, then the test repeated.

The Contractor shall allow for half a day attendance within one week of store opening to check and re-commission the PA system as necessary to the system is operating effectively as intended. Re-commissioning work shall include but not limited to re-adjusting loudspeakers to appropriate level for each area, checking of PA equipment including microphones and background music for effective operation.

Final acceptance of the system shall not absolve the Contractor should any defect appear during the twelve months warranty period.

As-built drawings and operations and maintenance manuals shall be provided for all system components as outlined in the appendices section.

Wiring diagrams showing the store's cabling layout is to be included with the manuals. Date of final testing and acceptance is to be provided with the manuals along with details of service

facilities and contact phone numbers.

3.14 'AS-INSTALLED' DRAWINGS, O&M MANUALS

Upon completion of the contract, the Contractor shall provide one (1) hard copy and two (2) sets in USB flash drives of the Operations and Maintenance (O&M) Manual with each manual comprising the following information:

- A complete set of "As-built" drawings. The drawings shall indicate the complete installation, including all conduit and cable runs.
- A service log book which indicates the type and frequency of maintenance work to be carried out.
- Technical datasheets of the equipment used, their local service agent for spare parts and copies of the installation and maintenance information.

Distribution of the manuals is to be as follows:

- The hard copy and 1 x USB flash drive of the O&M Manual to be placed in a holder within the PA Rack or on the adjacent wall.
- The remaining 1 x USB flash drive shall be provided to the Project Manager.

A soft-copy of the O&M Manual shall be sent to Woolworths Head Office via the following email address:

engineering@woolworths.com.au

Final payment may be withheld until all drawings and manuals are received.

APPENDIX A – SCHEDULE OF PA CONDUITS

The following provisions shall be made by the Electrical Contractor for the PA System.

1. 20mm conduit from the roof space to each wall mounted speaker or volume control location. Where finished wall surfaces will be provided, this conduit shall terminate in a standard wall box set in the wall.
2. 2 x 40mm conduits or equivalent duct space from the PA amplifier location to the ceiling space.
3. 20mm conduit from microphone points in all offices and each work station to the roof space.
4. A 50mm x 50mm sheet metal duct from the office area to the checkouts will be provided in the ceiling space for use by the PA Contractors. This duct is labelled PA System and shall be used for installing cables to the checkout area, Trading area ceiling space and other areas reasonably close to the duct.

Under no circumstance shall the PA Contractor use any other duct or conduit not specifically installed for the PA system.

APPENDIX B – EQUIPMENT PLACEMENT LIST

(To be completed by PA Contractor)

Area	A	B	C	D	E	F	G	G
Trading Floor								
Checkouts/Service Desk								
Coolroom								
Stock Room								
Team Room								
Male Toilets								
Female Toilets								
Locker Room								
General Office								
Dock Area								
Other areas								
Total Units								

Legend

- A – Microphone and Point
- B – 200mm Ceiling Speaker with transformer & Grill (CS)
- C – 200mm Speaker with Surface mounted enclosure (SS)
- D – 200 mm Ceiling Speaker with V/C (CSLV)
- E – Local Area Volume Control (VC)
- F – Horn Speaker 10 watts (HS)
- G – Amplifier/Booster power
- H – Pendant Speaker (PS)

APPENDIX C – EQUIPMENT SCHEDULE (BOM)

(To be completed by PA Contractor)

Equipment item	Qty	Make	Model
Amplifier			
Mixer			
Cable			
Rack			
Speaker - 200mm Ceiling Speaker with transformer &Grill (CS)			
Speaker - 200mm Speaker with Surface mounted enclosure (SS)			
Speaker - 200 mm Ceiling Speaker with V/C (CSLV)			
Volume Control Panel			
Microphone			
Line Isolation Unit			