



ARS Digital Series

1U Audio Source Selection and Signal Routing Unit

with 8 to 16 Inputs and Single
or Dual Output Connectors

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User Manual

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Important Safety Instructions

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water.
- 6) Clean only with dry cloth.
- 7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8) Do not install near any heat source such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10) Protect the power cord from being walked on or pinched, particularly at plugs convenience receptacles and the point where they exit from the apparatus.
- 11) Only use attachments/accessories specified by the manufacturer.
- 12) Use only with the cart stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- 13) Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as when power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- 15) Do not expose this apparatus to rain or moisture.
- 16) The apparatus shall be connected to a mains socket outlet with a protective earthing connection.

CAUTION!



In products featuring an audio amplifier and speakers, the surface at the side of the unit, where the audio amplifier heat sink is internally attached, may get very hot after extended operation. When operating the unit exercise caution when touching this surface and ensure that external materials which may be adversely affected by heat are not in contact with it. There is a Hot Surface label (see diagram) attached to the aforementioned surface of the product.

Introduction

Congratulations on your selection of a Wohler Technologies product. We are confident it represents the best performance and value available, and we guarantee your satisfaction with it.

If you have questions or comments you may contact us at:

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Section 1

General Features and Specifications

Description

Features

Applications

General Specifications



ARS Digital Series

1U Audio Source Selection and Signal Routing Units

Description

The ARS Digital series from Wohler Technologies provides electronic switching for multiple AES digital audio sources in a single rack space. An ARS unit may function as a stand-alone audio routing switcher, or as the source selector in an interactive system for aural and visual monitoring of multiple audio sources.

Three versions provide one or two independently selected AES outputs:

- 1) The 8x1 model (**ARS-D81**) accepts up to eight inputs from which one output is selected.
- 2) The 2x (8x1) model (**ARS-D81-2**) is equivalent to two 8x1 units in one chassis.
- 3) The 8x2 model (**ARS-D82**) accepts 8 inputs with independent channel selection to two separate outputs.

The 16x1 model (**ARS-D161**) accepts up to 16 digital audio inputs from which one output is selected.

All models come standard with BNC connectors for inputs and outputs, however, Phoenix connectors may be specified as a special order option. Switching is accomplished by means of high speed (140 Mhz) video switching ICs, thus avoiding any significant delay between input and output signals.

Features

- **Cost-effective design; NON-synchronous (crash) switching**
- **Four single-group versions: 8 or 16 inputs to one or two outputs**
- **Only ONE rack space high**
- **Wide-band video buffers assure signal integrity**
- **LED indication of selected channel(s).**
- **Tactile switches offer "radio button" style channel selection**
- **Comprehensive system application in conjunction with Wohler AMP Series monitors and LM Series multiple source level metering.**

Applications

The ARS Digital series is ideally suited for use in broadcast, recording, corporate and industrial video, satellite link facilities, and commercial sound applications. Designed and manufactured in the U.S., the ARS Digital Series is backed by a strong warranty and a satisfaction guaranteed return policy.

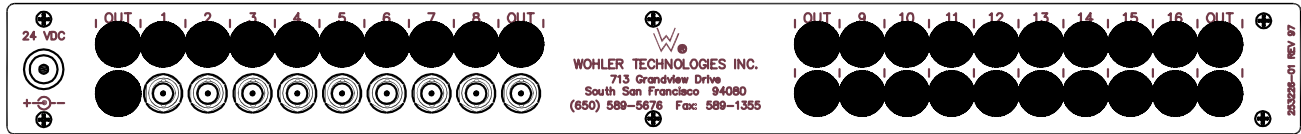
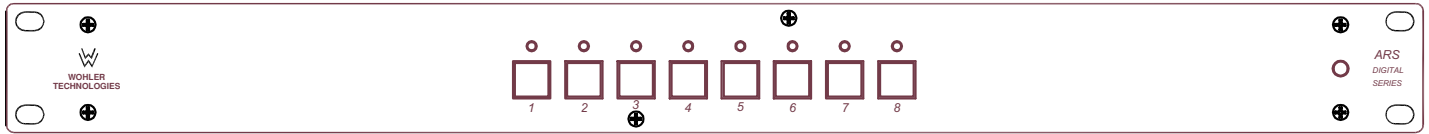
General Specifications

Bandwidth:	140 MHz (-9 dB)
Connectors:	BNC: 75 Ω , unbalanced (standard) Phoenix: 110 Ω , balanced (Option)
Inputs:	Transformer isolated with removable termination
Outputs:	Transformer coupled
Power Supply:	External 120VAC to 24VDC
Weight:	9 lbs. (4.2 kg)
Dimensions, (HxWxD):	1.75 x 19 x 6 inches (44.5 x 483 x 116 mm)

Units are designed to meet, at time of manufacture, all currently applicable product safety and EMC requirements, such as those of UL and CE. 0 dbV ref. 0.775V RMS. Features and specifications subject to improvement without notice.

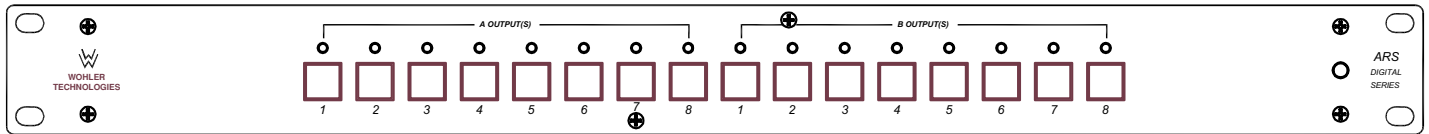
Front and Rear Panels

ARS-D81 Front Panel



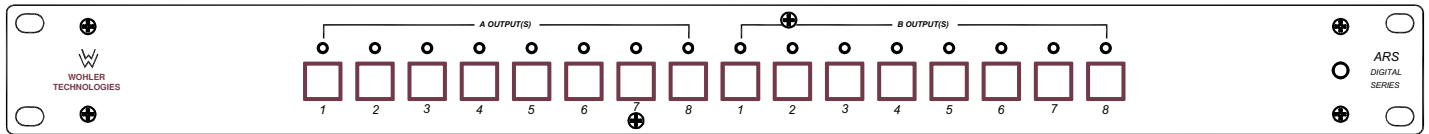
ARS-D81 Rear Panel

ARS-D81-2 Front Panel



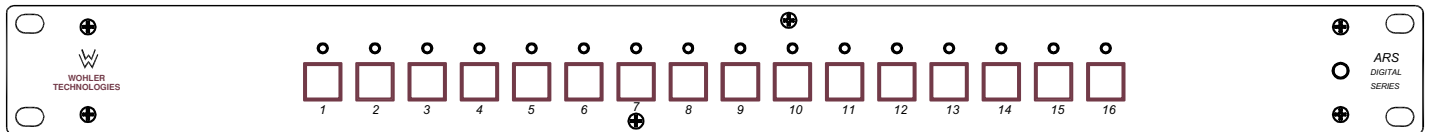
ARS-D81-2 Rear Panel

ARS-D82 Front Panel



ARS-D82 Rear Panel

ARS-D161 Front Panel



ARS-D161 Rear Panel

Section 2

Operation

Installation

Front Panel Features

Rear Panel Features

Installation

Mounting

The ARS unit should be mounted in a rack or console where convenient for the expected level of operation. If only occasional operation is expected, the unit might be located higher or lower in the rack than would be advisable if it is expected to be used frequently. The unit's chassis is only six inches deep, so it may be more convenient to connect the cables from in front of the rack. This would be especially useful where the ARS unit is adjacent to equipment with a fairly deep chassis. In that case, when attaching the plug-in terminal blocks, be sure that the cables are long enough to reach through the front of the rack.

Heat Dissipation

Heat produced by these units is negligible. No special considerations for cooling are necessary as long as the ambient temperature inside the rack area does not exceed approximately 40°C (104°F).

Mechanical Bracing

The chassis is securely attached to the front panel at six points along its surface, not just at the four corners of the chassis ears. This feature will reduce or eliminate rear bracing requirements in most mobile/portable applications. The weight of internal components is distributed fairly evenly around the unit.

Electrical Interference

As with any audio equipment, maximum immunity from electrical interference requires the use of shielded cable; however, satisfactory results can sometimes be obtained without it.

Power Supply

The ARS Series is powered by an external Universal Input/24VDC desktop power supply through a DC input connector at the rear panel. Since the opamp circuitry normally requires a split supply, a bias source is created at 1/2 the 24VDC level for proper opamp biasing.

Audio Connections

All standard input connections are on BNC style connectors. Each input connector accepts an AES digital signal and carries two channels of audio data. Refer to the interconnect block diagrams on page xx for a visual representation of the signals leading into and out of the unit.

Note: Only one of four front panel configurations is shown in Figure-2a (Model ARS-D82). However, all controls and indicators function the same across the entire line of analog ARS models. See page 5 for illustrations of all front and rear panel configurations available in the ARS Digital series.

Front Panel Features

Please refer to Figure-2a on the following page to familiarize yourself with the front panel features of the ARS Digital series units. The following sections describe these features and are referenced, by number, to Figure-2a.

1 Input Select Buttons

Push one of these buttons to select the input channel that will be routed to the configured output connector(s). A single push selects the indicated channel. A green LED above the button (See Item 2, below) will light up to indicate that the channel is selected. Pushing another Channel Select button selects a different channel and automatically de-selects the previously selected channel.

2 Input Selection Indication LEDs

These green LEDs light up to show that the associated Channel has been selected for routing to the output connector(s). These LEDs will be unlit to indicate that the channel is not selected.

3 Power Indication LED

When the supplied external power supply is connected to the power input on the rear panel (Item A, below) and mains power is operating, then this LED will glow green.

Rear Panel Features

Please refer to Figure-2a on the following page to familiarize yourself with the rear panel features of the ARS Digital series units. The following sections describe these features and are referenced, by letter, to Figure-2a.

A Power Supply Connector

Plug in the supplied external AC to 24VDC power supply into this connector to supply power to the ARS unit. The Power Indication LED on the front panel (Item 3) will glow green when power is supplied.

B Digital Audio Input Connectors

Plug in your standard AES digital audio inputs into these BNC connectors. There are from eight to sixteen input connectors depending on the ARS model configuration being used. Please note that due to the modular nature of the rear panel, there will be a varying number of empty connector holes, which are fitted with hole plugs. BNC connectors are female and configured for unbalanced 75 Ω connections. Phoenix connectors (optional) are configured for balanced 110 Ω connections.

C Digital Audio Output Connectors

These connectors provide outputs of the inputs as selected by the Input Select buttons on the front panel (Item 1) and are configured for low impedance connections. Note that in the event the ARS unit is configured with two outputs (as shown in the ARS-D82 model in Figure-2a on the facing page), the "A" output connector is located to the left of the input connectors while the "B" output is located to the right.

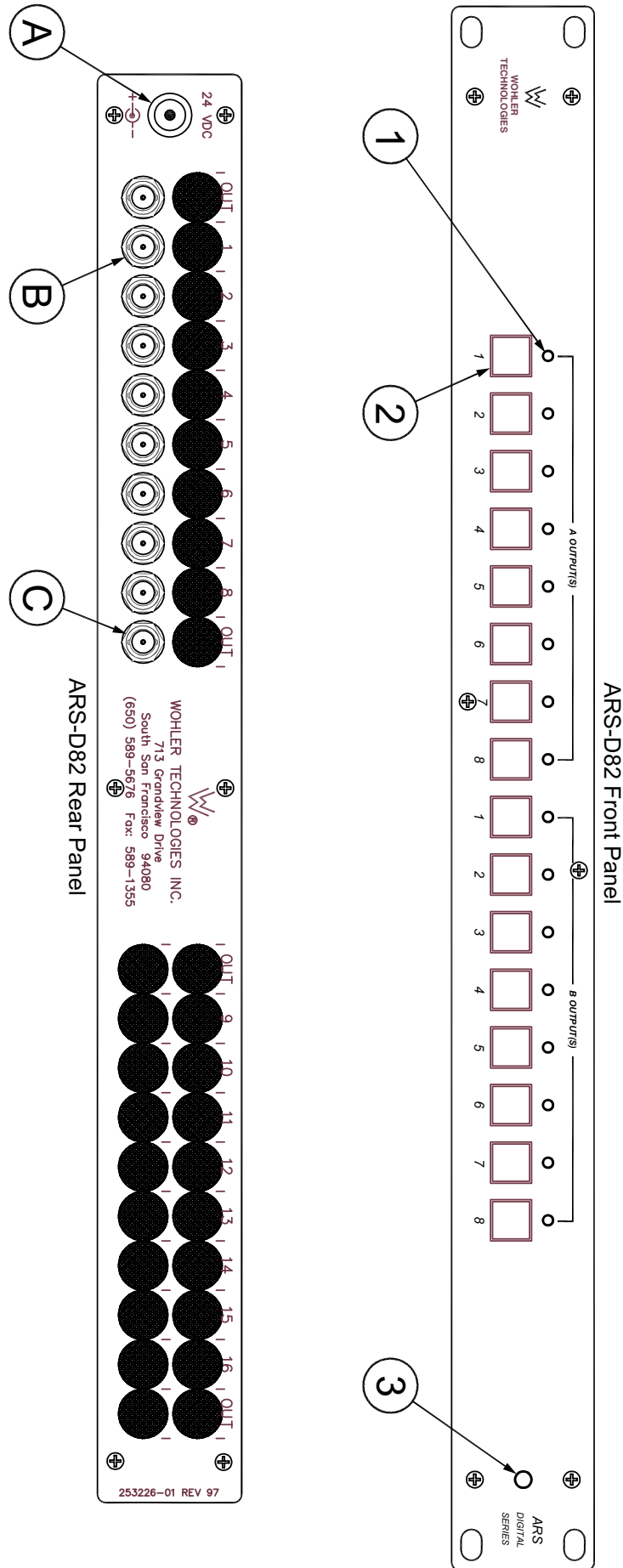


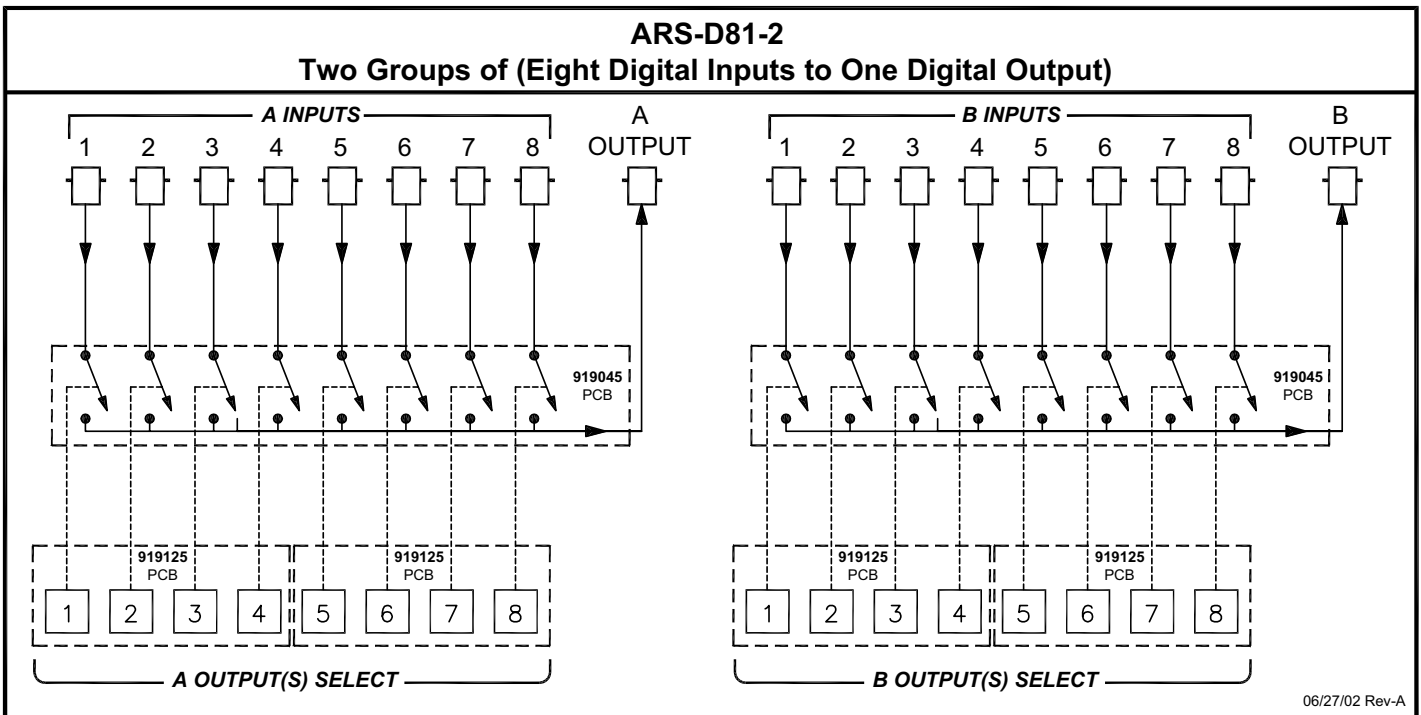
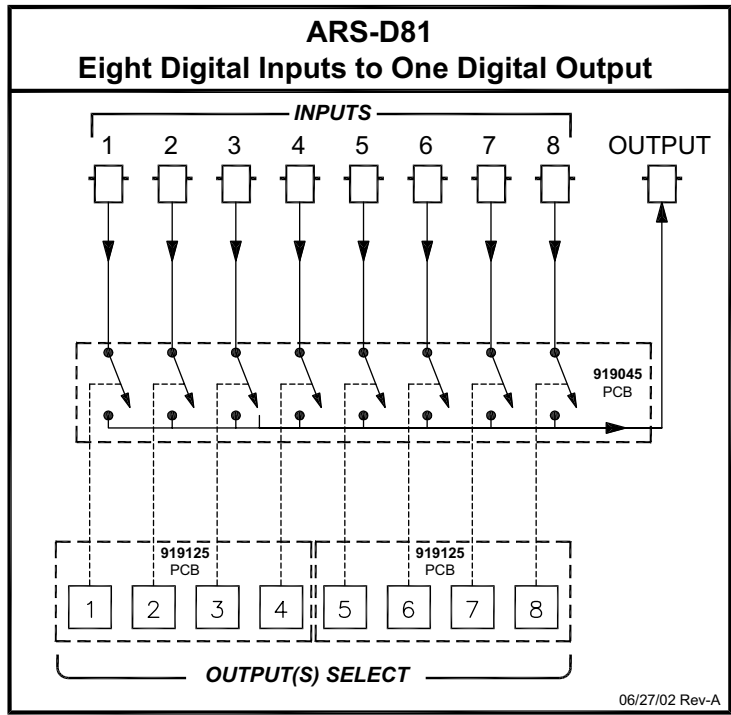
Figure-2a: Front Panel Features

Section 3

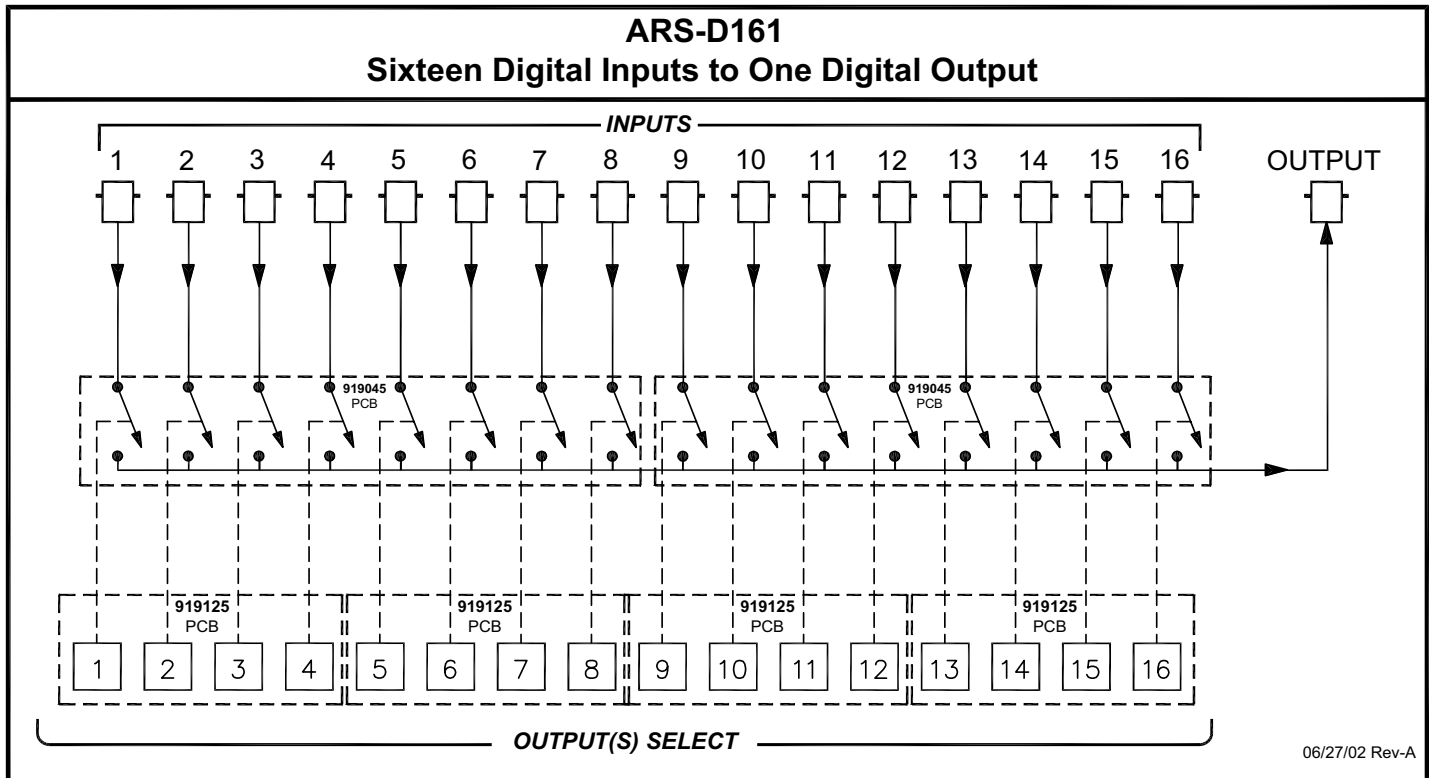
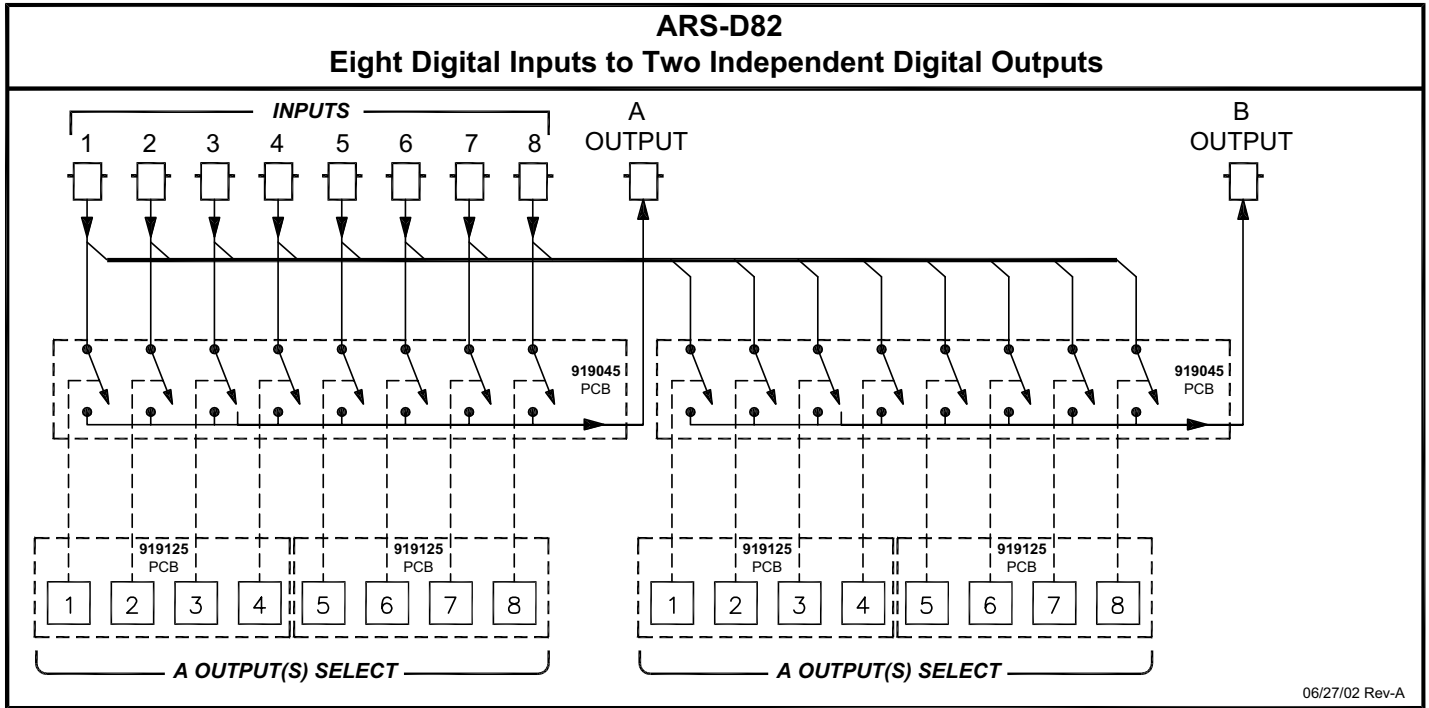
Technical Information

- **ARS Interconnect Block Diagrams**

ARS Inconnect Block Diagrams



ARS Inconnect Block Diagrams





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