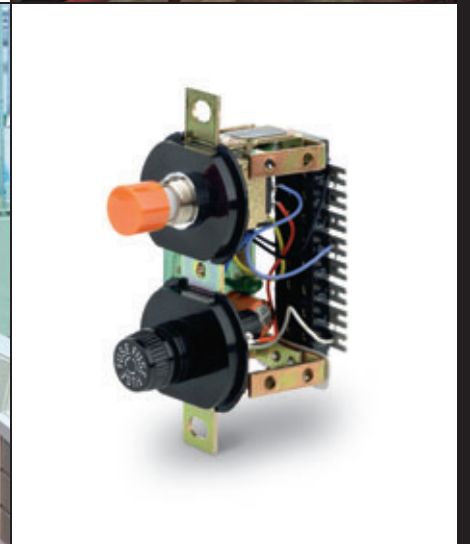


# SERIES 3100

COMMUNICATION  
SYSTEM with  
NOISE ATTENUATING  
HEADSETS



- EASY TO INSTALL
- MODULAR DESIGN
- INTERFERENCE-FREE OPERATION
- UP TO 32 STATIONS
- POWERED BY BATTERY or STANDARD 115 VAC



360 Franklin Street, Box 15054, Worcester, MA 01615-0054 U.S.A.  
(508) 751-5800 E-Mail: sales@davidclark.com FAX: (508) 753-5827



# SERIES 3100 COMMUNICATION SYSTEM

The Series 3100 Communication System is a modular system designed to allow maximum flexibility and still meet the design criteria of most headset intercom applications. When voice communications are necessary, but loud background noise, isolated locations or distance make it virtually impossible to communicate, our Series 3100 System can provide the solution. The system described below is flexible, low cost and versatile enough for even complex intercom requirements. The Series 3100 System is easy to install as all the electronic modules are designed for standard electrical outlet box and audio rack mounting.

**Series 3100 Communication System must include the following components:**

- Power Supply or Power Control Modules (See this page.)
- Power Amplifier (See page 3.)
- Headset Stations (See page 3.)
- Extension Cords with Push-to-Talk or Belt Stations (See page 4.)
- Headsets (See page 5.)

These components can be used in a variety of combinations to form a complete Series 3100 Communication System tailored to suit your system requirements.

**Note:** Please contact factory for systems with more than 32 stations or a total length greater than 2,000 feet.

**Typical Applications for the Series 3100 include:**

- Jet Engine Test Facilities
- Sporting Events, Rock Concerts
- Theaters, Auditoriums, Civic Centers
- Vibration Test Facilities
- Steel Mill Operations
- Drop Forge Shops
- Radio, TV, Recording Studios
- Large Vehicle Maneuvering
- Barges and Dredges
- Crane, Elevator or Power Shovel Operations
- Auto Racing, Thoroughbred Racing

## POWER MODULES



### MODEL M3111 POWER SUPPLY

A well regulated power supply designed for intercom use. Regulated by integrated circuitry with built-in short-circuit protection. Contains system on/off switch. Uses two spaces in standard 2<sup>3</sup>/<sub>4</sub>" deep electrical outlet box.

*Specifications*

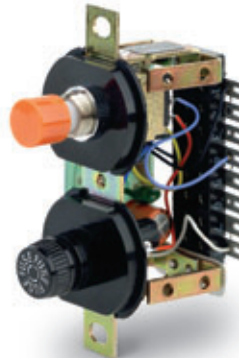
Input: 110/220 VAC 50-60 Hz

Output: 24 VDC

Max. Current: 0.5 Amp

Output Ripple: 25 Millivolts  
Peak to Peak

*Note: For more technical information, consult Technical Specification #17209P-86.*



### MODEL M3115 POWER CONTROL MODULE

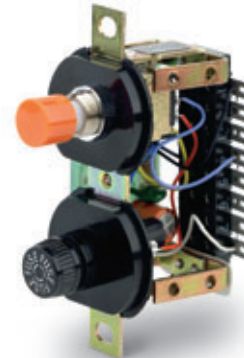
Serves as power control switch and regulator for intercom system between 12 VDC power source and system power amplifier. Output fused with 0.5 Amp fuse. Has system on/off switch. The only headset station that can be used with this module is Model M3145. Not to be used for over 10 headset stations. When this module is used, every headset must have push-to-talk switch. Uses one space in standard 1<sup>3</sup>/<sub>4</sub>" deep electrical box. (Do not use when power source is connected to battery charger.)

*Specifications*

Input: 12 VDC nominal

Output: 0.5 Amp

*Note: For more technical information, consult Technical Specification #17206P-27.*



### MODEL M3116 POWER CONTROL MODULE

Serves as power control switch and regulator between 24 VDC power source and system power amplifier. Output fused with 0.5 Amp fuse. Has system on/off switch. Uses one space in standard 1<sup>3</sup>/<sub>4</sub>" deep electrical box. Can be used for up to 32 headset stations. (Do not use when power source is connected to battery charger.)

*Specifications*

Input: 24 VDC nominal

Output: 0.5 Amp

*Note: For more technical information, consult Technical Specification #17206P-27.*

## POWER AMPLIFIER



### MODEL M3131 POWER AMPLIFIER

Designed to drive up to 32 headset stations or belt stations. May also be used separately as paging amplifier for up to three 45 ohm speakers or equivalent. Has system volume control. Occupies one space in 2" deep standard electrical box.

#### Specifications

Input: impedance 80,000 ohm min.

Output: 2 watts @ 24 VDC and 16 ohm

Gain: 32dB

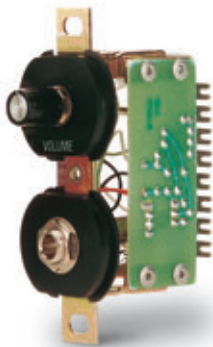
When used as a paging amplifier, it provides 2 watts continuous power into a 16 ohm load.

*Note: For more technical information, consult Technical Specification #17209P-03. Refer to this specification for required addition of fixed resistor based on number of intercom headset stations.*

## TYPICAL SYSTEM COMPONENTS



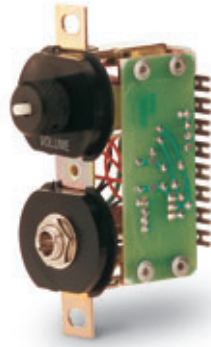
## HEADSET STATIONS



### MODEL M3141 HEADSET STATION

Provides interface between one headset and intercom system. Has individual earphone volume control. A compensating resistor must be added to power amplifier when this unit is used to maintain proper impedance in system. Maximum of 32 headset stations may be used in system. Contains microphone preamplifier. Occupies one space in 1<sup>3</sup>/<sub>4</sub>" deep standard electrical box.

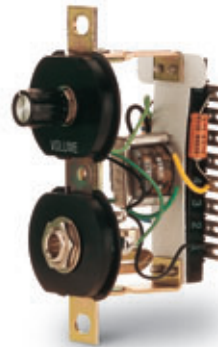
*Note: For more technical information, consult Technical Specification #17206P-71.*



### MODEL M3142 HEADSET STATION

Contains same features and specifications as M3141 with the addition of push-to-page button. A compensating resistor must be added to power amplifier when this unit is used to maintain proper impedance in system. When this unit is used, an additional M3131 must be added to system to drive paging speakers. Occupies one space in 1<sup>3</sup>/<sub>4</sub>" deep standard electrical box.

*Note: For more technical information, consult Technical Specification #17206P-71.*



### MODEL M3145 HEADSET STATION

Provides interface between one headset and intercom system. A compensating resistor must be added to power amplifier when this unit is used to maintain proper impedance in system. This unit must be used when system operates on 12 VDC. Has individual earphone volume control. Occupies one space in 1<sup>3</sup>/<sub>4</sub>" deep standard electrical box.

*Note: For more technical information, consult Technical Specification #17205P-54.*

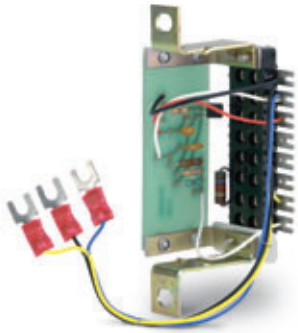


### MODEL M3442 HEADSET STATION

Two Model U3410 Belt Stations may be connected. This is a passive module to be used when screw-on connectors (MS Type) are used to prevent accidental disconnect. When this module is used in system, Model M3162 Impedance Control must be used. Does not have individual volume control. Occupies one space in 1<sup>3</sup>/<sub>4</sub>" deep standard electrical box.

*Note: For more technical information, consult Technical Specification #17205P-84.*

## SPECIAL APPLICATION MODULES



### MODEL M3146 HANDSET STATION

The M3146 Handset Station provides the interface between David Clark Communication System and Atlas/Soundolier Telephone Handset (Models WE-2A and WB-2A with Carbon Transmitters only). Used where headset is not a requirement or where telephone handset is preferred. Has terminal strip for connecting into communication system with lead wires to handset station. Occupies one space in standard 1<sup>3</sup>/<sub>4</sub>" deep electrical box.

*Note: For more technical information, consult Technical Specification #17209P-02.*



### MODEL M3162 IMPEDANCE CONTROL

Has a switch selected resistor for matching number of belt stations connected to system. It optimizes circuit characteristics and ensures that system will operate as designed. For use with Headset Station M3442. Occupies one space in standard 1<sup>3</sup>/<sub>4</sub>" deep electrical box.

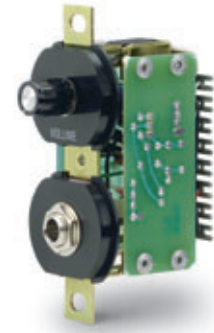
*Note: For more technical information, consult Technical Specification #17209P-04.*



### MODEL M3147 BALANCED LINE MODULE

Balanced Line Module can be used to interface a tape recorder, radio or other sound source to the intercom system. Two balanced line modules may be used to substantially increase distance between headset stations or tie multiple intercom systems together. Occupies one space in standard 1<sup>3</sup>/<sub>4</sub>" deep electrical box. Not for use with systems operating from 12V battery power source.

*Note: For more technical information, consult Technical Specification #19521P-96.*



### MODEL M3143 SUMMING AMPLIFIER HEADSET STATION

Model M3143 Summing Amplifier Headset Station provides interface between one headset and intercom system. Has individual earphone volume control. Allows connection of external audio source such as tape player, alarm or radio. Second audio source will only be heard through headset plugged into this station. Occupies one space in standard 1<sup>3</sup>/<sub>4</sub>" deep electrical box. Not for use with systems operating from 12V battery power source.

*Note: For more technical information, consult Technical Specification #19521P-95.*

## BELT STATION / CORDS



### MODEL U3410 BELT STATION

Model U3410 Belt Station affords user mobility. It serves as a preamplifier and interfaces between headset and headset station. The U3410 Belt Station connects only to M3442 Headset Station. This unit features headset jack, individual earphone volume control, a push-to-talk or push-to-lock microphone button, belt clip, 12 foot cord with screw-on connector. (MS Type)

*Note: For more technical information, consult Technical Specification #17209P-01.*



### MODEL C35-15 PUSH-TO-TALK ASSEMBLY

15 foot shielded, oil resistant cord with push-to-talk/push-to-lock switch on the assembly and Switchcraft Jack SC#12B and Plug SC#298. Connector plug has locking threads to secure plug to headset station.



### MODEL V3412 VOX BELT STATION

Model V3412 Belt Station serves as a preamplifier and interfaces between headset and headset station. The V3412 Belt Station connects only to M3442 Jack Station. This unit features adjustable squelch control for voice activated circuit, manual PTT override switch, headset jack, headset listen level control, belt clip, 12 foot straight cord with MS connector. Speaking into the microphone on a headset activates the belt station, providing hands-free operation.

*Note: For more technical information, consult Operators Manual #19506P-39.*



### MODEL C36-12 EXTENSION CORDS

12 foot shielded, oil resistant cord with Switchcraft Jack SC#133 and Plug SC#298. Can be used with the C35-15 Push-to-Talk Assembly for additional length. Connector plug has locking threads to secure plug to headset station.

## SERIES 3300 HEADSETS

The choice for rugged, reliable communications in high noise environments. The Series 3300 Headsets feature David Clark Company's M-1/DC Noise Canceling Microphone.



### MODEL H3330 HEADSET/MICROPHONE

*Over-the-Head style.*

Microphone: M-1/DC Amplified Dynamic (nominal 100 ohm)

Boom: Has three different adjustment points for perfect microphone placement. Can be rotated to position microphone on left or right side.

Earphone: Lightweight Dynamic (nominal 300 ohm) wired in series

Cord: 4 conductor, 28" nominal

Plug: 2P-1643

NRR: 24dB



### MODEL H3340 HEADSET/MICROPHONE

*Designed to be worn with Safety Cap.*

Microphone: M-1/DC Amplified Dynamic (nominal 100 ohm)

Boom: Has three different adjustment points for perfect microphone placement. Can be rotated to position microphone on left or right side.

Earphone: Lightweight Dynamic (nominal 300 ohm) wired in series

Cord: 4 conductor, 28" nominal

Plug: 2P-1643

NRR: 24dB



### MODEL H3391 HEADSET/MICROPHONE

*Single Ear.*

Microphone: M-1/DC Amplified Dynamic (nominal 100 ohm)

Boom: Has three different adjustment points for perfect microphone placement. Can be rotated to position microphone on left or right side.

Earphone: Lightweight Dynamic (nominal 300 ohm)

Cord: 4 conductor, 28" nominal

Plug: 2P-1643

## SERIES 3400 HEADSETS

Your choice when comfort is a priority. Series 3400 Headsets feature David Clark Company's M-7A Electret Microphone, fully flexible boom, and silicone gel ear seals.



### MODEL H3430 HEADSET/MICROPHONE

*Over-the-Head style.*

Microphone: M-7A Electret (nominal 50 ohm)

Boom: Full flex for precise microphone positioning. Rotates 200° for left or right side placement.

Earphone: Lightweight Dynamic (nominal 300 ohm) wired in series

Cord: 4 conductor, 28" nominal

Plug: 2P-1643

NRR: 23dB



### MODEL H3440 HEADSET/MICROPHONE

*Designed to be worn with Safety Cap.*

Microphone: M-7A Electret (nominal 50 ohm)

Boom: Full flex for precise microphone positioning. Rotates 200° for left or right side placement.

Earphone: Lightweight Dynamic (nominal 300 ohm) wired in series

Cord: 4 conductor, 28" nominal

Plug: 2P-1643

NRR: 23dB



### MODEL H3140 HEADSET/MICROPHONE

*Designed to be worn with Safety Cap.*

Microphone: Throat Microphone, Amplified Electret Element (nominal 100 ohm)

Earphone: Lightweight Dynamic (nominal 300 ohm) wired in series

Cord: 4 conductor, 28" nominal

Plug: 2P-1643

NRR: 23dB

*Note: Either Series Headset can be used in Series 3100 Communication System.*



Schematic for: H3330, H3340,  
H3430 and H3440



Schematic for: H3391



Schematic for: H3140

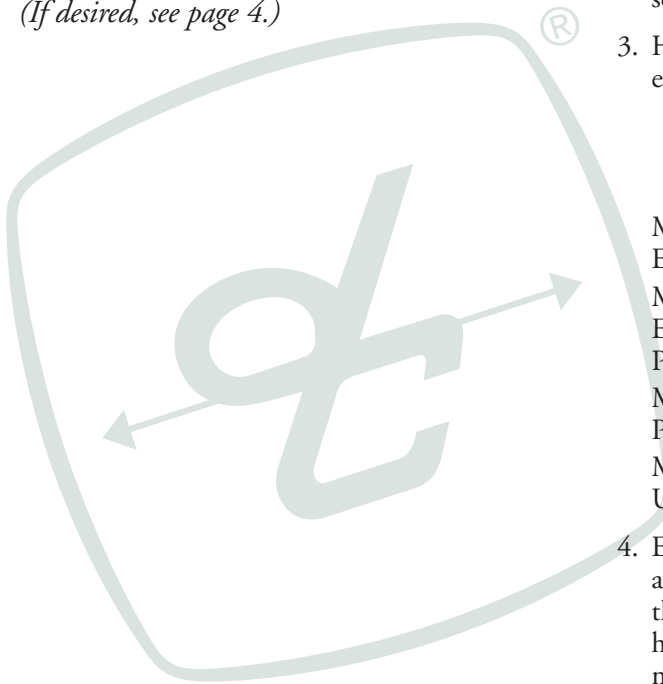
The M-1/DC Amplified Dynamic and M-7A Amplified Electret Microphones are noise canceling elements which may be used in place of carbon microphones.

# SERIES 3100 SYSTEM WORKSHEET

**Series 3100 Communication System must include the following components:**

- Power Supply or Power Control Modules
- Power Amplifiers
- Headset Stations
- Extension Cords with Push-to-Talk or Belt Stations
- Headsets

*NOTE: Special Application Modules (If desired, see page 4.)*



## TYPICAL SERIES 3100 APPLICATIONS

- TEST FACILITIES
- INDUSTRIAL PLANTS
- SPORTING VENUES
- ENTERTAINMENT



**CALL 1-815-790-4494**

1. Power Supply or Power Control Module – One required per system. (See page 2.)

Model	Quantity

- M3111 Power Supply for systems utilizing 110 VAC.
- M3115 Power Control Module for systems operating from 12 volt battery power source.
- M3116 Power Control Module for systems operating from 24 volt battery power source.

2. Power Amplifier – A minimum of one amplifier required per system. (See page 3.)

Model	Quantity

- M3131 Power Amplifier used when 2 to 32 headset stations are connected to system. May be used as separate paging amplifier.

3. Headset Stations – One headset station required for each headset connected to the system. (See page 3.)

Model	Quantity

- M3141 Headset Station. Single outlet for connecting Extension Cord/Push-to-Talk Assembly.
- M3142 Headset Station. Single outlet for connecting Extension Cord/Push-to-Talk Assembly. Has added Push-to-Page feature.
- M3145 Headset Station. Must be used when M3115 Power Control Module is used (12 volt system).
- M3442 Headset Station. Two outlets. Belt Station U3410 or V3412 must be used with this headset station.

4. Extension Cords/Belt Stations – The selection of an Extension Cord/Belt Station is predetermined by the selection of the headset station used. Because the headsets are only available with a 28" cord, it is recommended that an Extension Cord/Belt Station be used with each headset for greater mobility. (See page 4.)

- U3410 or V3412 Belt Station must be used whenever the M3442 Headset Station is used.

- C35-15 Push-to-Talk Assembly may be used whenever Models M3141, M3142, M3143, M3145 are used.

- C36-12 Extension Cord. Used with C35-15 to afford greater mobility.

5. Headsets – Headsets should be chosen for their noise-attenuating characteristics and whether headset is to be worn with safety headgear.

Model	Quantity



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