

BOGEN[®]

COMMUNICATIONS, INC.

MIXER/PREAMPLIFIER

MODEL DMP-06

INSTALLATION & OPERATION INSTRUCTIONS

The Bogen DMP-06 is a 7-by-2 mixer/preamplifier designed to use Bogen plug-in modules for the flexibility to meet a wide range of application requirements. The unit has 2 separate outputs, A & B, each with its own master volume and tone controls. Each output provides an independent mix of a built-in program input and up to six module inputs. Each input has two level controls, to set the input level of each mix. A variable muting feature (60dB range) mutes the program input when rear panel contacts are shorted.

The Bogen plug-in modules define the function of each module input. Active-bus mixing allows interaction for three-level priority. Modules set to priority level 1 can receive (are muted by) priority signals from modules set to levels 2 and 3. Modules set to priority level 2 send priority signals to (and mute) modules set to priority level 1, and receive priority signals from modules set to priority level 3. (Modules set to priority level 1 or 2 are also muted when the rear panel MUTE terminals are shorted through a contact closure.) Modules set to priority level 3 send priority signals to (and mute) the program input and modules set to level 1 or 2.

The DMP-06 is designed for maintenance-free operation. High-performance output circuitry assures peak performance even under the most demanding applications. The frequency response is flat within +0, -1dB from 20Hz to 20kHz. Distortion is less than 0.2% at maximum output across the entire bandwidth of 20Hz to 20kHz (+0, -1dB), and is typically less than 0.01%. Maximum noise level is 72dB with the MASTER control at maximum. Input sensitivity is 100mV/10kilohms for the module and program inputs.

Each output channel provides direct 600-ohm unbalanced, and transformer-coupled, 600-ohm balanced taps. Connection is via screw terminals. Either mixing bus also may be strapped to other D-Series equipment through separate bridging jacks.

Full range bass and treble controls provide ± 10 dB cut or boost at 10Hz and 10kHz, respectively. Tone control defeat switches are located in the module port cage to prevent tampering after installation. The overall level for each output is set with separate MASTER controls, and is displayed by three-color bar-type LED output meters, which illuminate red to indicate possible signal clipping conditions.

The unit operates from 120V, 50-60Hz AC. A rocker-type power switch illuminates when the power is on. Dimensions are 5-1/2"H x 16-1/2"W x 11-3/8"D. The unit may be mounted in standard equipment racks using Model DRK-3 Rack Panel Kit.

INSTALLATION

UNPACKING

The mixer was carefully checked before leaving the factory. Inspect the shipping container and the unit closely for evidence of improper handling. If the unit has been damaged, place an immediate claim with the dealer/distributor from whom the unit was

purchased. If the unit was shipped directly to you, file a claim with the transportation carrier in accordance with ICC regulations.

RACK MOUNTING

The mixer is designed for installation in standard equipment racks, using Model DRK-3 Rack Panel Kit.

MODULES

Caution

Be sure that the front-panel-mounted POWER switch is in the OFF position before installing or removing modules.

Modules are easily inserted in any available port of the module cage. Align the top and bottom edges of the module circuit board in the slots of the port, and slide the module into the cage to engage the card edge connectors. Secure the module to the amplifier with two screws.

PRIORITY

Set the priority level on modules so equipped to the desired level before installing them in the amplifier. The level is set by repositioning printed circuit board-mounted shunts. The screening on the module printed circuit board shows which pins to connect for the desired priority level.

PRIORITY LEVEL 1 — The module receives, and is muted by, priority signals from any module set to priority level 2 or 3. A module set to priority level 1 is also muted when the rear panel MUTE terminals are shorted through a contact closure. (The program input is pre-set at level 1.)

PRIORITY LEVEL 2 — The module sends priority signals to mute any module set to priority level 1, and receives priority signals from any module set to priority level 3. A module set to priority level 2 is also muted when the rear panel MUTE terminals are shorted through a contact closure.

PRIORITY LEVEL 3 — The module set to priority level 3 sends priority signals to mute modules set to priority level 1 or 2 and the program (PGM) input. (The rear panel MUTE terminals function at level 3 when shorted through a contact closure.)

OUTPUT TERMINAL STRIPS

Each output channel provides direct 600-ohm unbalanced, and transformer-coupled, 600-ohm balanced taps. Connection is via rear panel screw terminal strips.

Use single-conductor shielded cable when using the direct output. Connect the cable shield to the GND terminal. Use two conductor shielded cable when using the transformer-coupled output. Connect the conductors to the HI and LO terminals; connect the cable shield to the CT terminal.

When the transformer-coupled output is used to feed the sound system, the direct output is available to feed a tape recorder or similar high-impedance input.

TECHNICAL SPECIFICATIONS

Output Rating <i>Transformer</i> <i>Direct</i>	+4dBm, 600 ohms (Rated), +16dBm, 600 ohms (Maximum) +6dBm, 600 ohms (Rated), +18dBm, 600 ohms (Maximum)
Frequency Response	20Hz-20,000Hz, +0,-1dB
Distortion	<0.2% @ Maximum Output (Over a Power Bandwidth of 20Hz-20,000Hz, +0, -1dB), <0.01% Typical
Signal-to-Noise Ratio	72dB with MASTER @ Maximum
Input Sensitivity/Impedance <i>Module Inputs</i> <i>Program Input</i> <i>Bridging I/O</i>	100mV/10 kilohms 100mV/10 kilohms 100mV/3 kilohms
Tone Controls <i>Bass</i> <i>Treble</i>	$\pm 10\text{dB @ }100\text{Hz}$ $\pm 10\text{dB @ }10\text{kHz}$
Program Variable Mute Range	60dB (Minimum)
Power Requirements	120VAC, 60Hz
Dimensions	5-1/2"H x 16-1/2"W x 11-3/8"D

OPERATION

POWER

The front-panel rocker switch applies power to the mixer. An integral pilot lamp illuminates when power has been applied.

LEVEL CONTROL

Set gain and filter controls on modules so equipped to mid-rotation. Set the mixer (CHANNEL 1 through 6) level controls to their full counterclockwise position. Control the level of each input on the desired bus (A or B) with clockwise rotation of the appropriate control. The overall output level is adjusted with the appropriate MASTER control. The LED level meter will illuminate red to indicate possible signal clipping conditions.

TONE CONTROL

When the Tone Control switches in the module cage are in the OUT position, the front panel tone controls are disabled and the tone response will be flat. To enable the front panel tone controls for either bus, set the appropriate A or B control switch to the IN position. Bass and treble tone controls provide $\pm 10\text{dB}$ cut/boost at 100Hz and 10kHz, respectively.

VARIABLE MUTE

Operation of the variable-mute feature (0 to 60dB range) requires a customer-supplied contact closure across the MUTE terminals. This contact closure will mute the program input (PGM) and any module set to priority level 1 or 2.

MAINTENANCE

Caution

There are no user-servicable parts within the unit. Refer all servicing to qualified service personnel

AC CIRCUIT BREAKER

If the AC circuit breaker trips, the power switch pilot lamp will go out and there will be no output. Set the AC power switch to OFF and depress the red button on the circuit breaker to reset it. Return the AC power switch to ON. If the breaker trips again, have the trouble investigated by a qualified technician.

THERMAL BREAKER

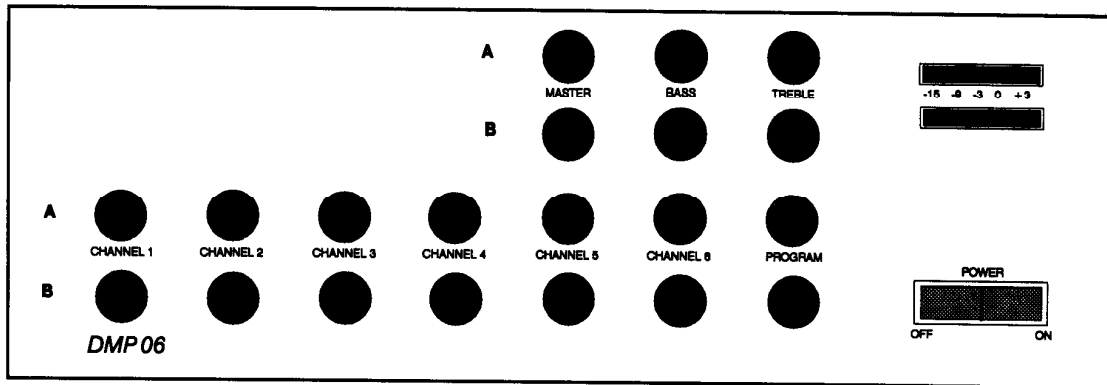
The thermal breaker will open when the temperature at the output transistor heat sink reaches 105°C (221°F) on all models. If the breaker opens, there will be no output but the power switch pilot lamp will remain illuminated. Wait approximately two minutes for the breaker to reset. If the breaker resets and then opens again, investigate the cause of the temperature overload. This may be due to improper connections at the output terminals or excessive environmental heat with inadequate ventilation.

SERVICE

We are interested in the maintenance of your Bogen equipment. If you encounter difficulty, do not hesitate to ask our advice. Information can be obtained by writing to Service Department, Bogen Communications Inc., P.O. Box 575, Ramsey, NJ 07446.

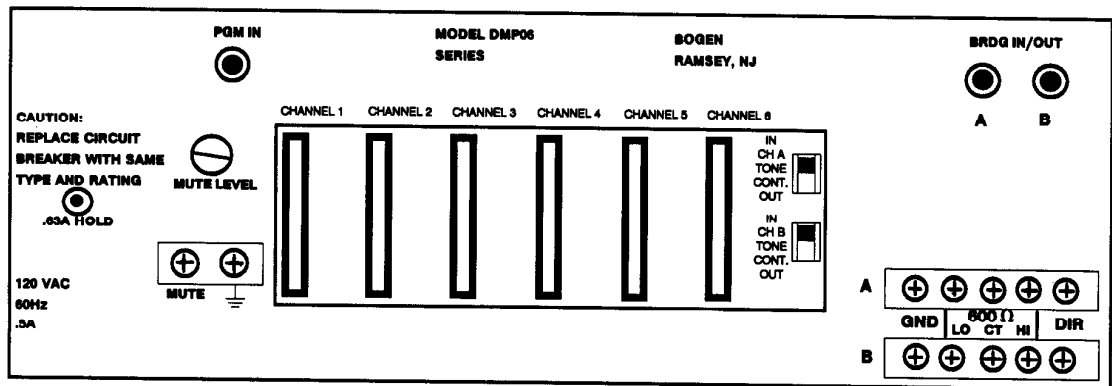
When communicating with us, give the model and series designation (stamped on the rear panel) of your unit. Describe the difficulty and include details on the electrical connection to associated equipment. We will send you service information if the trouble appears simple. If the amplifier requires servicing, we will send you the name and address of the nearest Bogen Service Agency to which you can send the unit for repairs.

When shipping the unit, pack carefully to prevent damage in transit. Send the unit, insured and freight prepaid, via any responsible carrier. The unit will be promptly repaired and returned to you collect (freight prepaid while in warranty).



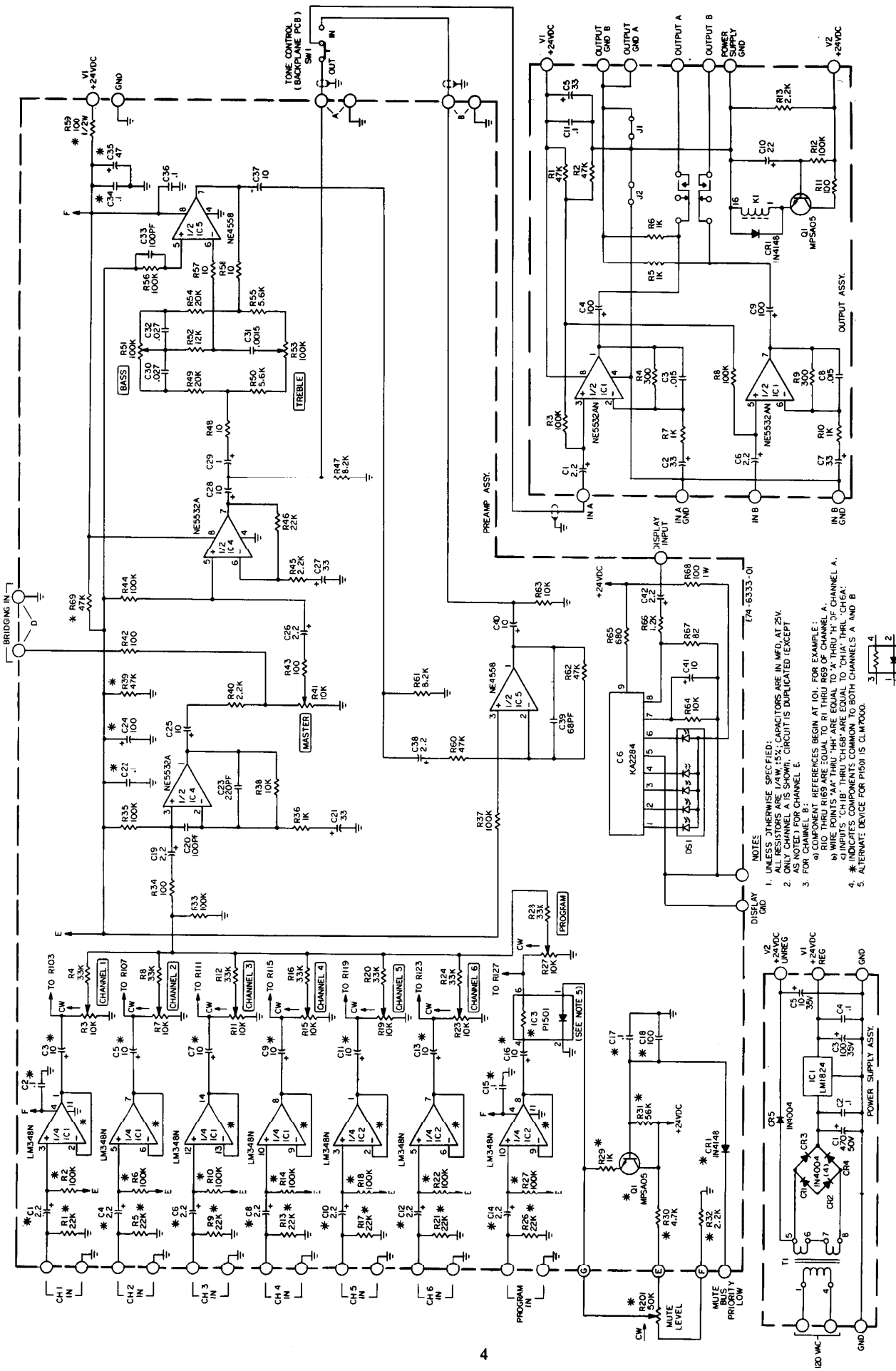
FRONT PANEL CONTROLS AND INDICATORS

POWER	Rocker-type switch illuminates when power has been applied.
LEVEL	Bar-type LED meters provide a graphic display of the output levels.
A & B	Continuous red illumination indicates possible signal clipping.
A & B CHANNELS 1-6	Individual level controls for module inputs 1 through 6.
A & B PROGRAM	Level controls for the fixed program input.
A & B MASTER	Master output level controls.
A & B BASS	Provides ± 10 dB attenuation at 100Hz (with tone control switch IN).
A & B TREBLE	Provides ± 10 dB attenuation at 10kHz (with tone control switch IN).



REAR PANEL CONTROLS AND CONNECTORS

LINE CORD	Three-wire line cord supplies power to the amplifier.
AC BREAKER	Press-to-reset AC circuit breaker protects against excessive current flow.
INPUT PORTS	Card edge connectors accept plug-in modules.
PGM IN	Fixed program input for high level source (e.g., tape player or phono).
MUTE	Terminals provided to activate mute bus. Requires a customer-supplied contact closure. The PGM IN input and any module set for priority level 1 or 2 will be muted by contact closure.
MUTE LEVEL	Screwdriver-adjustable mute level control for PGM IN input. 60dB range.
BRDG IN/OUT	Allows strapping of mixing busses from another DMA amplifier. Output level is independent of MASTER control; may be used as an output for tape recorder.
A & B OUTPUTS	Screw-terminal strips for connection to direct and transformer-coupled outputs.
A & B TONE CONTROLS	<i>IN</i> : Enables front panel bass and treble controls. <i>OUT</i> : Bypasses tone controls for flat response.



- NOTES
1. UNLESS OTHERWISE SPECIFIED: ALL RESISTORS ARE 1/4W, 5%; CAPACITORS ARE IN MFD, AT 25V.
 2. ONLY CHANNEL A IS SHOWN. CIRCUIT IS DUPLICATED EXCEPT FOR CHANNEL B.
 3. FOR CHANNEL B:
 - a) COMPONENT REFERENCES BEGIN AT 101. FOR EXAMPLE: R10 THRU R169 ARE EQUAL TO R1 THRU R69 OF CHANNEL A.
 - b) WIRE POINTS "A", "THRU", "HH" ARE EQUAL TO "X" THRU "H" OF CHANNEL A. 4. * INDICATES COMPONENTS COMMON TO BOTH CHANNELS A AND B.
 5. ALTERNATE DEVICE FOR P1501 IS CLM7000.

DMP-06 — Schematic Diagram

PLUG-IN MODULES

Sound Reinforcement — Modules MM-F & MM-S

Low-impedance, transformer-balanced microphone preamplifier module with **HIGH-/LOW-CUT** filters, **GAIN** control (25dB range), phantom power. **MM-F** — female XLR-type connector; **MM-S** — screw terminals (**Terminal #1 is GND, #2 is LO, and #3 is HI on all modules**).

Operation

Phantom Power: Move **PHANTOM P.S.** jumper to the **ON** position for +22V phantom supply. Select **OFF** position to bypass.

Microphone Paging — Module MP-S

Signal-activated low-impedance, transformer-balanced microphone preamplifier module with **HIGH-/LOW-CUT** filters, **GAIN** control (25dB range). Automatic Level Control (**ALC**), three levels of priority and phantom power are jumper selected. Screw terminal connectors.

Operation

Phantom Power: Move **PH. P.S.** jumper to **ON** position for +22V phantom supply. Place jumper on either header pin to bypass.

ALC: Move **ALC** jumper to **ON** position; move to **OFF** to bypass.

Muting Priority (using PRIORITY ASSIGN jumpers):

Level 1 — Place one jumper in the 1" position and store the unused jumper on an empty pin.

Level 2 — Place both jumpers in the 2" position.

Level 3 — Place one jumper in the 3" position and store the unused jumper on an empty pin.

Telephone Paging — Module TP-S

Signal-activated telephone paging module provides a 600-ohm balanced input with -24dBm sensitivity for matching to telephone page lines. Includes **HIGH-/LOW-CUT** filters and **GAIN** control (25dB range). Automatic Level Control (**ALC**) and three levels of priority are jumper-selected. Screw terminal connectors.

Operation

ALC: Move the **ALC** jumper to **ON** position to enable **ALC**; move to **OFF** position to bypass.

Muting Priority (using PRIORITY ASSIGN jumpers):

Level 1 — Place one jumper in the 1" position and store the unused jumper on an empty pin.

Level 2 — Place both jumpers in the 2" position.

Level 3 — Place one jumper in the 3" position and store the unused jumper on an empty pin.

Auxiliary Input — Module BL-S

Transformer-balanced auxiliary input module suitable for line-bridging or line-matching. Use the printed circuit board jumper to select either 600-ohm input or 10-kilohm input. Screw terminal connectors.

Line Output — Module LO-S

Module provides jumper-selected 600-ohm transformer-balanced (+4dBm) output or 0.5-watt direct output at 8-ohms. May be used for line output from the D-Series mixing bus or for music-on-hold applications. Parallel RCA jacks permit one music source to be used for M.O.H. and background music. A jumper-selected pad provides 20dB attenuation of the signal from the music source. **LEVEL** control sets the module output level.

Operation

Output Selection: Select **DIRECT** or **XFMR**-coupled output by placing jumper **J4** in the appropriate position. (When using the direct output, connect the 8-ohm load between screw terminals #1 and #3. When using transformer output, terminal #1 is GND, #2 is LO, and #3 is HI.)

Place jumper **J2** in **L.O.** position for line output or in **M.O.H.** position for music-on-hold applications. Connect the music

source to the **MUSIC IN** (RCA) jack; the **MUSIC OUT** jack is paralleled to allow same signal source to be used for background music.

Attenuator Pad: Place jumper **J3** in the 20dB position to attenuate the signal connected to the **MUSIC IN** jack. Bypass the pad by placing the jumper in the 0dB position.

Tone Signal Generation — Module TG-S

The module generates four distinct tones: **CHIME**, **STEADY**, **ALARM**, and **BURST**. May be assigned to any of three levels of priority. Requires customer-supplied contact closure between the desired Tone and **ENABLE** screw terminal connectors.

Operation

Muting Priority (using PRIORITY ASSIGN jumpers):

Level 1 — Place one jumper in the 1" position and store the unused jumper on an empty pin.

Level 2 — Place both jumpers in the 2" position.

Level 3 — Place one jumper in the 3" position and store the unused jumper on an empty pin.

Remote Volume Control or Compression — Module VC-C

Dual-function (jumper-selected) compressor/remote volume control module. The compressor limits the power amplifier input signal to 1 volt to prevent overdrive. The DC-operated full range volume control allows any output setting up to the maximum preset on the D-Series unit **MASTER** level control.

Operation

Compression: Set the **PRE/AMP LINK** switch on the D-Series unit to **OUT** position. Connect the **PREAMP OUT** jack on the D-Series unit to the **VC-C IN** connector. Connect the **VC-C OUT** jack to the **AMP IN** connector on the D-Series unit. Place jumper **J1** in the **IN** position to enable the compression function; move to the **OUT** position to bypass.

Remote Volume Control: Connect a potentiometer (minimum value 20-kilohms) to terminals #1, #2, and #3.

FM Reception — Module FM-T

FM tuner module designed as a preset background music source. Screwdriver-adjusted tuning. The output is jumper-selected to the mixing bus of the D-Series unit or to the module's RCA-type connector. May be configured to accept priority signals from other modules. Monaural operation. Screw terminals for antenna.

Operation

Output: Place jumper **J1** in **OUT** position to assign tuner output to the module's RCA connector. Place jumper **J1** in **MIX BUS** position to assign module's output to the D-Series mixing bus.

Mute: Place jumper **J2** in the **ON** position to mute FM-T with any level 2 or 3 priority signal. Place in **OFF** position to prevent muting from priority signals.

MIC/Line Remote Control — Module MR-S

Low-impedance transformer-coupled **MIC** preamp. or line-level module with **HIGH-/LOW-CUT** filters, **GAIN** control (25dB range), phantom power. Full-range DC-operated full-range **RVC** allows any output setting up to maximum preset on amplifier channel control. Screw terminal connectors.

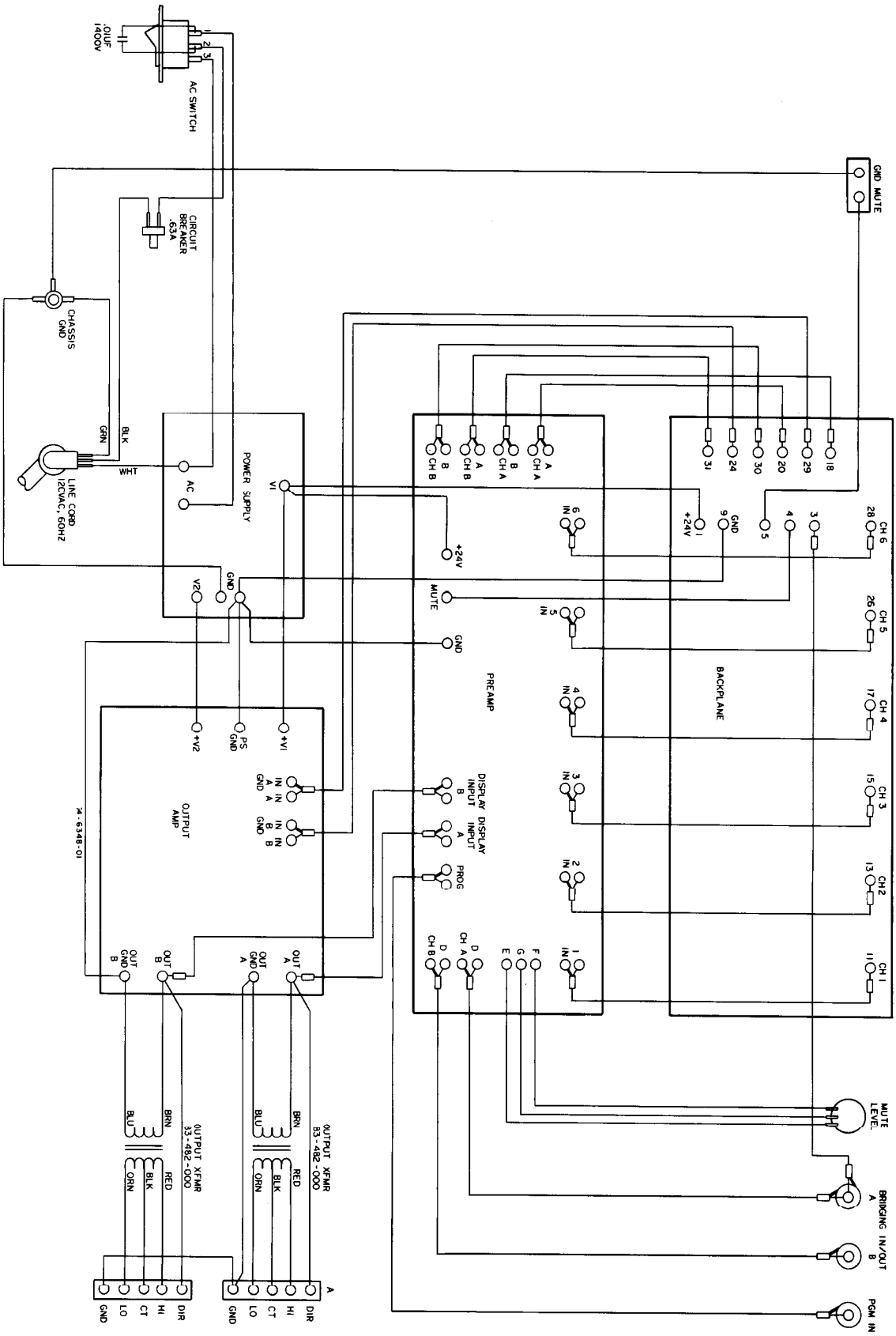
Operation

Input: Set Jumper **J2** to **MIC** position for microphone input. Set to **LINE** position for line level input.

Phantom Power: Move jumper **J1** to **ON** position for +22V phantom supply. Select **OFF** position to bypass.

Mute: Place jumper **J3** in the **ON** position to mute MR-S with any level 2 or 3 priority signal. Place in **OFF** position to prevent muting from priority signals.

RVC: Connect **RVC-D** to terminals 1 and 4.



DMP-06 — Wiring Diagram