Intellitron

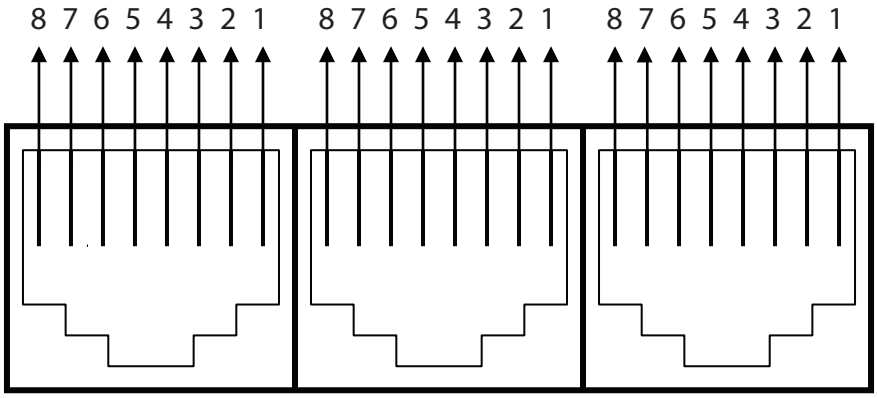
Desktop Compressor Microphone
DM-5299

Thank you for purchasing the Intellitron DM-5299 Desktop Microphone. To ensure optimal performance and longevity, please read this instruction manual carefully. We hope this microphone enhances your experience for years to come.

SPECIFICATIONS

- **Microphone**: High-Sensitivity Ceramic Microphone Element
- **Compressor Level**: High: 45 dB | Medium: 30 dB | Low: 10 dB
- **S/N Ratio (Graphic Equalizer Part):** 80 dB
- **Distortion Factor (Graphic Equalizer Part):** 0.05% (at flat)
- **Graphic Equalizer:** 4 elements (270, 540, 1000, 2000 Hz) + 12 dB range
- **Output Voltage**: COMP: 0 - 30 mV (RMS)
- **Matching Output Impedance**: 500 ohms - 100K ohms
- **Power Voltage**: DC 6~9 V
- **Current Consumption**: **(at Equalizer "Off") Receiving:** 3.5 mA, Transmitting: 4.5 mA
  (at Equalizer "On") Receiving: 10 mA, Transmitting: 11 mA
- **Alarm Sound:** Approx. 4.5 KHz Intermittent Tone
- **External Size:** 8.9" (W) x 5" (D) x 12.6" (H)
- **Weight:** Approximately 2.2 lbs

MICROPHONE CONNECTION INFORMATION

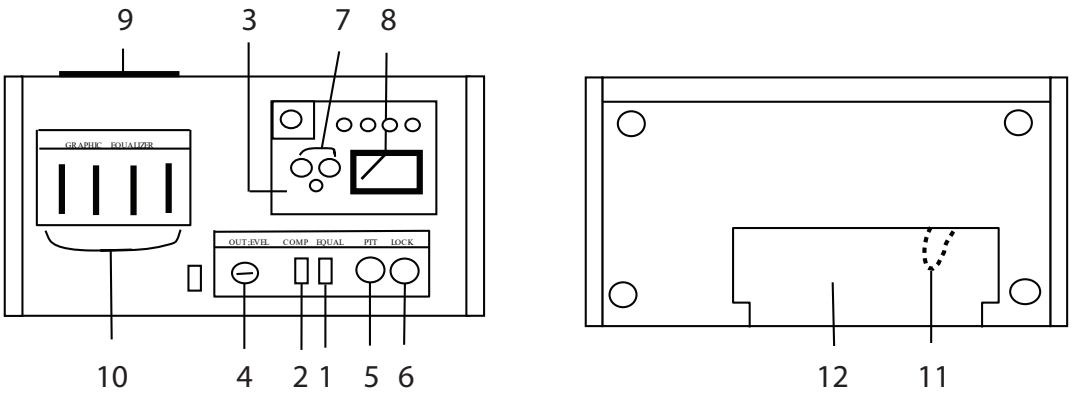


Pin	Function (Side A)	Function (Side B)	Function (Side C)
1	No Connection	UP	No Connection
2	PTT Ground	+8V DC Input	No Connection
3	MIC Input	PTT Ground	PTT
4	MIC Ground	PTT	MIC Input
5	PTT	MIC Ground	Ground
6	No Connection	MIC Input	+8 DC Input
7	Frequency UP/DN	No Connection	UP
8	+8V DC Input	DOWN	DOWN

FEATURES

- **High-Sensitivity Ceramic Microphone Elements:** Delivers crystal-clear audio for a superior communication experience.
- **Built-In High-Quality Compressor Amplifier:** Offers selectable levels (High, Medium, Low) to maintain a consistent, distortion-free audio output, regardless of input levels.
- **Advanced 4-Element Graphic Equalizer:** Allows precise audio quality control with adjustable center frequencies (270 Hz, 540 Hz, 1000 Hz, and 2000 Hz), ensuring optimal sound for FM mode and enhanced efficiency for SSB mode DX operations.
- **Non-Modulation Prevention Circuit:** Automatically activates an alarm after continuous transmission for a few minutes, emitting a 30-second alert tone before reverting to receiving mode to prevent unintentional extended transmissions.
- **Built-In Battery-Check Circuit:** Provides a quick battery status check by pressing the power switch, with the level meter displaying the battery voltage for a few seconds.

CONTROLS & FUNCTIONS



1. **Power and Graphic Equalizer ON/OFF Switch (Includes Battery Check)**
   - **Turning On the Device:** Slide the Power Switch (1) to the "ON" position. The Level Meter (8) will briefly display the battery condition before resuming its normal function as an audio level meter.
   - **Activating the Equalizer:** To enable the Graphic Equalizer, set the Power Switch (1) to the "EQUAL ON" position

How to Check Battery Level:

- Turn the Power Switch (1) to "ON."
- Observe the Level Meter pointer; it will deflect and hold momentarily.
- If the pointer settles outside the green zone, replace the batteries to ensure optimal performance.

2. **Compressor Level Selector Switch**
   - **HIGH (45 dB):** Use this setting for quiet environments or when speaking in a low voice or from a distance. Note that this setting may pick up background noise due to its high sensitivity.
   - **MED (35 dB):** The ideal setting for typical QSOs (conversations). This level ensures clear audio when speaking at approximately 4 inches from the microphone.
   - **LOW (10 dB):** Use this setting in noisy environments. The compressor function will activate only when the microphone receives a strong audio input, reducing background interference.

3. **"ON AIR" Indicator**
   - When the Power Switch (1) is set to "ON," the LED Indicator (3) blinks to indicate the microphone is in receiving mode.
   - During transmission, the LED Indicator (3) remains lit continuously.

4. **Output Level Volume**
   - Use this control to adjust the microphone's output level to an optimum setting.
   - Ensure the level meter pointer does not exceed "0 dB" to prevent distortion.
   - Note: This control is independent of the compressor settings.

5. **PTT Switch (Push-to-Talk)**
   - Use this switch for short QSOs (conversations). Pressing the PTT switch activates transmission, lighting up the TX LED Indicator and emitting a short "pip" sound.
   - Releasing the PTT switch stops transmission and disengages the LOCK mode if it is active.

6. **LOCK Switch**
   - Use this switch for extended QSOs. Pressing it activates continuous transmission, confirmed by a "peep" sound and the TX LED Indicator remaining lit.
   - To exit the LOCK mode, press the PTT switch (5).

7. **UP/DOWN Switch**
   - This switch functions similarly to the UP/DOWN switch on your transceiver, allowing channel or frequency adjustments.
   - Refer to your transceiver's user manual for detailed instructions.

8. **Level Meter**
   - The Level Meter displays the microphone's output level. Adjust the Output Level Volume and Graphic Equalizer Volume controls to keep the meter below "0 dB."
   - When the microphone is powered on, the Level Meter also functions as a battery checker for a few seconds. Ensure the pointer stays within the green zone during the battery check.

9. **Microphone Output Connector**
   - Connect the microphone to your transceiver using a suitable conversion cable, which is optionally available.
   - Ensure the cable is connected in the correct direction as specified.
   - Refer to the standard terminal layout (8P) to confirm proper alignment and connection of the microphone output to your transceiver.

Note: Using the appropriate conversion cable ensures optimal compatibility and performance.

10. **Microphone**
    - This model features a ceramic-type microphone, delivering clear and easily understandable sound quality.

11. **Graphic Equalizer**
    - The Graphic Equalizer includes 4 adjustable elements with center frequencies of 270 Hz, 540 Hz, 1000 Hz, and 2000 Hz.
    - Adjust the equalizer to customize the audio output for your specific needs:
      - **Low Voice Tone:** Reduce 270 Hz and 540 Hz levels to send clear sound to the transceiver.
      - **DX Operation:** Increase 1000 Hz and 2000 Hz levels for enhanced clarity and plain sound quality.
      - **Local QSO:** Decrease higher tone ranges for softer sound quality.
    - Each element allows a level change of up to ±12 dB. When increasing all elements by 12 dB, adjust the output volume to avoid distortion.

12. **Non-Modulation Prevention Circuit**
    - **Purpose:** Prevents accidental prolonged transmissions to ensure system functionality and avoid interruptions.
      - **Alarm Activation:**
        After 2-3 minutes of continuous transmission, an alarm will sound for 30 seconds. Following this, the microphone automatically switches back to receiving mode.
      - **Timer Reset:**
        If you are using the LOCK mode for continuous transmission, pressing the LOCK switch again will reset the timer and restart the alarm countdown.
      - **Canceling the Circuit:**
        1. Remove the battery cover (13).
        2. Find the yellow lead wire (12) and cut it.
        3. Use insulation tape to securely cover the cut wire ends to prevent short circuits.

13. **Battery Cover**
    - **Accessing the Battery Compartment:**
      - Unscrew the two screws on the bottom plate.
      - Open the compartment to install the batteries.
    - **Installing Batteries:**
      - Insert a 9V battery and connect it with the 9V battery snap.

Note: Ensure correct installation of batteries or power connection to avoid interruptions during operation. Proper setup is critical for optimal performance.

COMPRESSOR AMPLIFIER FUNCTION

The Compressor Amplifier ensures a constant, distortion-free output level, regardless of varying audio input levels. Its operation automatically adjusts electrical volume based on input intensity:

- **Linear Amplification:** Input levels from 'a' to 'b' are amplified linearly.
- **Compression:** Input levels from 'b' to 'd' are compressed to maintain consistent output.
- **Example:**
  - At the "HIGH" compressor setting, the compressor activates from as low as 1 mV, providing a minimum compression ratio of 45 dB.
  - This allows for consistent output levels, whether you're speaking softly or loudly, whispering, or shouting.
- **Benefits:**
  - Extends communication range by maintaining constant output levels.
  - Optimizes transceiver performance without loss of rated output power.

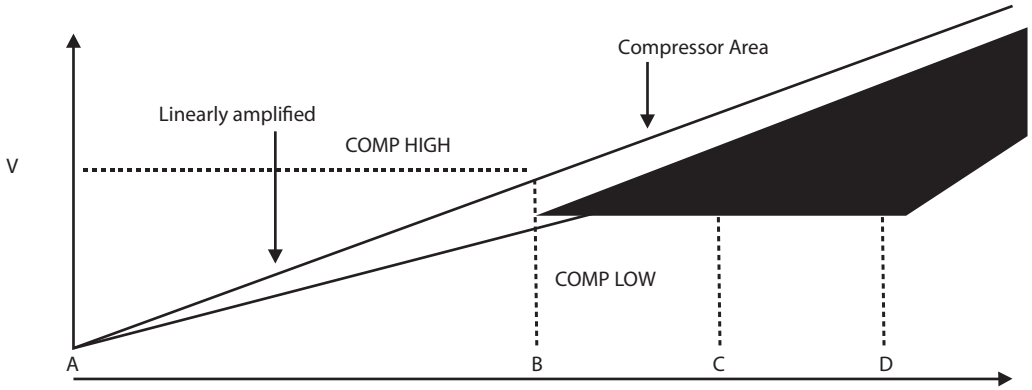


Figure 1

CAUTIONS

- Use only Intellitron conversion cables for reliable connections (refer to the table chart for details).
- Power Supply: The microphone cannot draw power from the transceiver, even with optional cables. Ensure batteries are installed for operation.
- Antenna Precautions: High SWR or incomplete grounding may cause RF feedback noise. Verify proper coaxial cable layout to avoid interface.
- Turn the power switch OFF after completing your QSO to preserve battery life.
- Use alkaline batteries for optimal performance and longevity.
- Avoid placing the microphone near high temperatures or direct sunlight to prevent damage.

Intellitron DM-5299 Microphone to Radio Cables

Cable No.	Compatible Radios	Cable Description
DMC-5290I	ICOM HF Radios w/ 8-pin Round Mic Con.	8-Pin Round to 8-Pin Modular
DMC-5290K	Kenwood HF Radios w/ 8-pin Round Mic Con.	8-Pin Round to 8-Pin Modular
DMC-5290Y	Yaesu HF Radios w/ 8-pin Round Mic Con.	8-Pin Round to 8-Pin Modular
DMC-5290MX	ICOM or Kenwood HF/VHF/UHF Radios with 8-Pin Modular Mic Con.	8-Pin Modular to 8-Pin Modular
DMC-5290MY	Yaesu HF/VHF/UHF Radios with 8-Pin Modular Mic Con.	8-Pin Modular to 8-Pin Modular
DMC-5299Y	Yaesu FT-847 8-pin Round Mic Con.	8-Pin Round to 8-Pin Modular



TWO YEAR LIMITED WARRANTY

This Limited Product Warranty is provided by the Dealer where your Intellitron product was purchased. The Product Warranty extends only to the original purchaser of the product and is valid for a period of two years from the date of purchase. Please keep your dated sales receipt as evidence of the date of purchase. You will need it to receive warranty service. Your Dealer warrants the product will be free from defects in workmanship and materials under normal use. If the product fails to conform to the warrant and is within the warranty period of two years, contact your original dealer for a return authorization. Your dealer may choose to either repair or replace the non-conforming product.