

Architectural & Engineering Specifications

30kHz Cardioid & Hypercardioid

The microphone shall be a back-electret condenser type with a wide-range uniform frequency response of 20Hz to 30kHz. The microphone shall have an output level of 10 mV/Pa (Cardioid) and 20mV/Pa (Hypercardioid). The microphone shall be of a single capsule, single membrane design. The microphone shall have an impulse response with the rise time no longer than 25 microseconds, and total settling time, including the rise time, no longer than 120 microseconds. The microphone shall have polar characteristics uniform in all planes to form a cardioid of revolution for FW730 and a hypercardioid of revolution for FW730/HC. The microphone shall accept sound pressure levels up to 145dB (Cardioid) or 139dB (Hypercardioid) producing no more than 3% THD and shall have strong RFI rejection. Dimensions of the stand/microphone head shall be 4.7 ft. (1.4m) high with a shock-isolating 12 in. (30.5cm) diameter cast iron base or optional tripod base. The maximum microphone head diameter shall be .540 in. (14mm) without the windscreen, and .9 in. (23 mm) including the supplied optional windscreen. The microphone shall be terminated with a professional 3-pin male XLR connector with gold plated contacts and shall have no cables visible above the base-mounted XLR connector. The microphone system shall require 24-48V phantom power. The microphone system shall be made of various metals with a black finish and a dark grey cast iron base optional black tripod base. The flexible microphone system shall be capable of positioning the microphone head from 10 in. (25cm) to 4.7 ft. (1.43m) above floor level. The total weight of the microphone system with metal base shall be 13.8 lbs. (6.26kg) or with optional tripod base 2.8 lbs. (1.27kg) The Earthworks FW430, FW430TPB, FW430/HC or FW430/HC-TPB is specified.

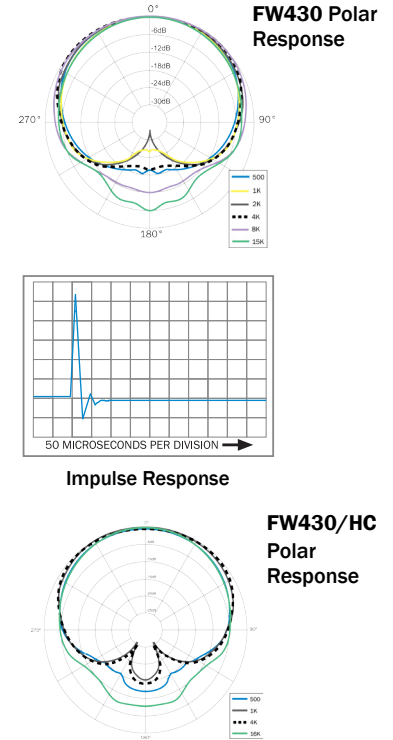
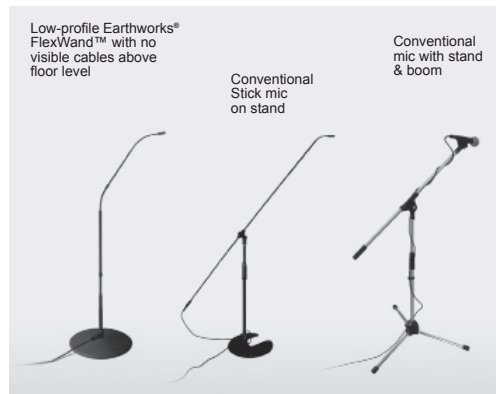
- A Totally Unique Combination of Microphone, Microphone Boom and Stand in a Single Unit
- Low Profile with No Visible Wires Above Floor Level
- Four Foot Version Allows Microphone to be Positioned from 10 inches to 4.7 feet high
- High Definition Microphone™
- Hear Details that Other Microphones Miss
- More Gain Before Feedback
- Exceptional Rejection of Sounds From the Rear
- Highly Versatile & Easy to Position from 10 inches to 4.7 feet high
- 20Hz to 30kHz Frequency Response
- Near Perfect Polar Pattern Provides Uniform Frequency Response at 0°, 45° & 90°
- Available in Cardioid & Hypercardioid

- FW430** 30kHz Cardioid (metal base)
- FW430TPB** 30kHz Cardioid (tripod base)
- FW430/HC** 30kHz Hypercardioid (metal base)
- FW430/HC-TPB** 30kHz Hypercardioid (tripod base)

FlexWand™ High Definition Microphones™

The FlexWand™ is a totally new concept in microphones. It is a combination of a High Definition Microphone and a low profile microphone stand and boom as a single unit. The FlexWand™ comes in two sizes; the FW730, 7 ft. model and the FW430, 4 ft. model. The FW430 allows the microphone head to be positioned as high as 4.7 feet and as low as 10 inches from the floor or anywhere in between. Both models are available with either a metal cast iron base or a tripod base. Best of all there are no visible wires or cables above floor level. Visually it is low profile, smooth, sleek and clean. The FlexWand™ is the ideal solution for applications where the utmost in sound quality and a low profile is required.

Using the FW430, you don't have to find a mic, attach the mic clip to the stand and then dress the cable around the stand. Just pick up the FlexWand™, position



it and plug the mic cable into the base. Best of all it is neat and clean visually with no unsightly microphone cable wrapped around the stand and boom.

Stand & Wand

The FlexWand™ has a large flex section near the center of the stand that couples the stand and the wand. There is also a mini-gooseneck between the end of the wand and the microphone head. The lower section of the stand is 3/4" in diameter and the 8.5 inch wand is 5/16" in diameter with a 4.5" mini-gooseneck connected at the end which connects to the High Definition Microphone head. The combination of a mid-flex section and the mini-flex on the wand provide an infinite combination of placement options between 10 inches and 4.7 feet. Please refer to the application photos on the rear of this data sheet.

Specifications

Frequency Response:	20Hz to 30kHz
Polar Pattern:	Cardioid or Hypercardioid
FW430 Sensitivity:	10mV/Pa (-40dBV/Pa)
FW430/HC Sensitivity:	20mV/Pa (-34dBV/Pa)
Power requirements:	24 - 48V Phantom, 10mA
Max Acoustic Input:	145dB SPL (Cardioid); 139dB SPL (Hypercardioid)
Output Connector:	Male XLR-3 (pin 2+)
Min Output Load:	600 ohms between pins 2 & 3
Noise:	20dB SPL equivalent (A weighted) (Cardioid) 16dB SPL equivalent (A weighted) (Hypercardioid)
Positioning Range:	From 1.5 ft. to 7 ft. above floor level
Dimensions:	Stand 4.7 in. long (1.4m), Metal Base 12" (30.5cm), dia 1.1 in. (2.7cm) high, Tripod Base footprint 23 in. (.58m) 6 in. (.15m) high
Color:	Stand, flex & wand - black, base - dark gray
Unit Weights:	Stand 1.2 lbs. (0.54 kg), Metal Base 12.6 lbs. (5.7kg), Tripod Base 1.6 lbs. (0.73kg)

A Revolutionary New Concept (a microphone, stand and boom as a single unit)

The highly versatile High Definition FlexWand™ System is the ideal solution for a wide variety of miking applications. The illustrations on this page show only a few of the many applications for the FlexWand™ System. Notice how the lower profile of the FlexWand™ provides a much cleaner and neater appearance with no visible cables above floor level. This is in addition to the dramatic increase in sound quality, gain before feedback and tremendous rejection of sounds at the rear of the microphone.

Near Perfect Polar Response

The FlexWand™ has near perfect polar response that will not beam or spotlight and will provide more gain before feedback. The frequency response of the cardioid and hypercardioid models at 90 degrees off-axis is within 3dB of the on-axis response at any frequency (within the specified frequency response of the microphone). The FlexWand™ will allow three singers to be placed around it and all three will enjoy the same pristine sound quality. This is virtually impossible with competitive microphones. The exceptional polar response of the FlexWand™ will allow the use of fewer microphones with placement closer to the source, thereby obtaining even more gain before feedback. In addition, the rejection of sounds from the rear of the microphone is exceptional. This is ideal when attempting to keep sounds from an orchestra or band out of vocal, choir or soloist microphones.

About High Definition Microphones™

During the last decade it has become commonplace for sound recording and broadcast equipment to accommodate extended frequency responses up to and beyond 100kHz. With few exceptions, even the very best of conventional professional microphones do not offer frequency responses above 20kHz. However, making a High Definition Microphone™ involves far more than extending the frequency response. Impulse response, diaphragm settling time and pristine electronics are also key elements. Earthworks' founder David Blackmer foresaw the need for higher quality microphones. Earthworks has been offering High Definition microphones, with extended frequency response beyond 40kHz, since 1996. Earthworks High Definition Microphones™ have an extremely clean, natural on-axis pickup, and smooth, uncolored off-axis response with high front-to-back rejection that makes them superb for a wide range of applications including sound reinforcement, broadcast, and recording of voice and musical instruments. You will hear exceptional sound quality that is extremely accurate, detailed, open and crystal clear even on 16 bit, 44.1kHz recording systems as well as analog or digital sound systems that are limited to a 15kHz or 20kHz bandwidth. You will hear a remarkable improvement in sound quality on nearly all audio systems when using Earthworks High Definition Microphones™.



Find the FW730 7 ft. FlexWands in the above photograph. How many FlexWands do you see?



Various applications of the 4 ft. FW430 FlexWand Microphone System

Extended Frequency Response

The FlexWand™ incorporates a High Definition Microphone™ with a 30kHz high frequency response that enables it to pick up high frequency overtones that conventional microphones miss. In addition, its extremely fast impulse response allows it to pick up transients far more accurately. The exceptionally short diaphragm settling time will enable you to hear subtle details that conventional microphones mask. The audible difference between an Earthworks High Definition Microphone™ and conventional microphones is as dramatic as the difference you see when comparing conventional video to a high-definition video. It is most impressive; you must hear it for yourself. We invite you contact Earthworks and request a free FlexWand™ demonstration at your facility. You will be impressed!

