



# TA-80

## Digital Plug-on Transmitter



# MIPRO TA-80 Digital Plug-on Transmitter

## The ways how microphone output connects to sound system

The microphone output connects to sound system with a microphone cable is the easiest and the most economical way; however, in live shows and outdoor performance, using the wireless is the best way to avoid the tangling cable. Now, MIPRO has developed the most advanced digital wireless technology to achieve the requirements of high quality transmission with reproduction of natural sound from microphone.



Wired transmission method



Wireless transmission method

## The advantages and shortcomings of wired and wireless transmission

Wired transmission is easy and economical, however, high and low frequency ranges will be attenuated with the cable quality and long distance transmission, even caused induction noises due to the nearby magnetic or RF field, and it will result in the deterioration of the signal quality.

Wireless transmission solves the cable tangling issue, however, it has to avoid noise signal interferences. In addition, it requires the radio telecommunication and safety approvals. The cost to produce this wireless solution is much higher than wired transmission.

Most transmission method is analog-based and its transmission quality can't meet the professionals' requirements. MIPRO started the digitalization of wireless microphone systems in 2006, and the transmission quality almost met the original sound quality requirements and was nominated by TEC award in 2007.



Digitalized wireless transmission meets the pro audio's sound quality requirements.

## The true digital wireless design of TA-80 ensures the reproduction of natural sound

The TA-80 was created in 2014 for a reputable German condenser microphone manufacturer who requires a digital wireless transmitter to plug on the studio and measurement condenser microphones to transform into a wireless system application. The TA-80's strict specifications and functions have met the requirements of that company and the broadcast markets.



TA-80 is designed with true digital wireless technology.

# MIPRO TA-80 Digital Plug-on Transmitter

## TA-80 Features

1. TA-80 has a flat and wide frequency response, ultra-low THD and noise floor, fast transient response, strong anti-interference, and high S/N ratio characteristics. These superior characteristics are sufficient to resolve the trouble of tangling microphone cables and the deterioration of analog transmission characteristics. It is the best system to reproduce natural sound of any premium wired microphone.
2. TA-80 transmitter has a built-in switchable 12 / 48V, up to 10 mA current load phantom power for condenser microphones, and the phantom power can be switched off for dynamic microphones.
3. A built-in high-capacity lithium battery enables continuous 5 to 8 hours of use per charge. TA-80 can be recharged by dropping it into an intelligent MP-80 charger or by removing the single battery cell from the TA-80 and placing it into the charger. TA-80 has reverse polarity protection and battery replacement is fast and easy.
4. TA-80 is compact, lightweight and ruggedly built. The streamlined aluminum housing is splash-proof with strict isolation of spurious and external noise interference. Built-in high efficiency transmitting antenna, green backlit LCD clearly displays operation parameters. Featuring UHF 64 MHz bandwidth transmission and is compatible with MIPRO ACT-80/80R miniature digital receivers or EIA standard ACT-8 series digital receivers. Ideal for a variety of professional audio applications.



TA-80 is compatible with ACT-82a receiver



TA-80 is compatible with ACT-818 & ACT-828 receivers



# MIPRO TA-80 Digital Plug-on Transmitter

## The TA-80 Applications



### Measurement microphone plugged on the TA-80

MIPRO TA-80 plug-on wireless transmitter has flat frequency response, high dynamic range, high transient response, built in phantom power supply, with voltage switchable 12V and 48V, and consuming current load up to 10mA. Therefore, it can be plugged into a variety of precision measurement condenser microphone to use with ACT-8 series digital wireless receiver in below applications.

1. Acoustical Measurement : For single and multi-point reverberation and STI (speech intelligibility index) analyzation in sites.
2. Sound field performance venues and speaker systems optimizing adjustment : single and multi-point measurements.

This way can replace the traditional optimizing adjustment by cables in large stadiums, and obtains the same effect as wired measurement. Without the cables, the measurement task will become easier.



### Broadcast / ENG / Film microphone plugged on the TA-80

Used with ACT-80 or ACT-80R compact digital ENG receiver for recording professional or amateur interviews, dramas, music events and ecological sound effects.



# MIPRO TA-80 Digital Plug-on Transmitter

## Personal wired condenser microphone plugged on the TA-80

Used with ACT-8 series professional digital receiver as a wireless microphone for singing.



## Personal wired dynamic microphone plugged on the TA-80

Used with ACT-8 series professional digital receiver as a wireless microphone for singing.



## Recording microphone plugged on the TA-80

Used with ACT-8 series professional digital receiver for the recording studios.



Used with ACT-8 series professional digital receiver as a live recording microphone.



## Musical instrument microphone plugged on the TA-80

Used with ACT-8 series professional digital receiver or ENG receiver as a wireless musical instrument microphone.



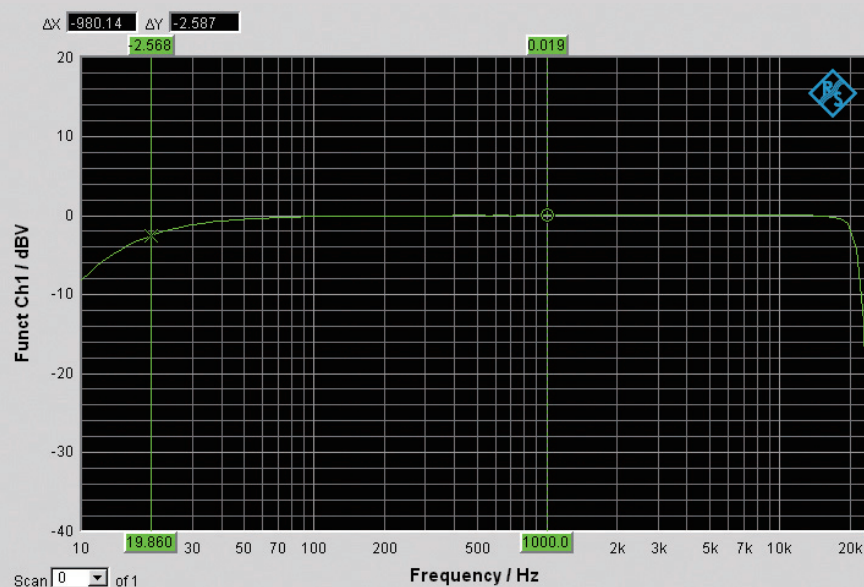
# MIPRO TA-80 Digital Plug-on Transmitter

## TA-80 and Receivers Specifications

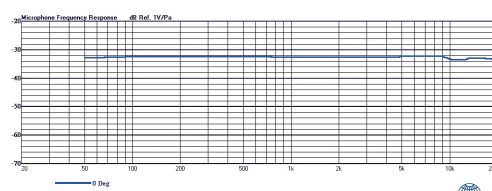
### TA-80 Digital Transmitter Specifications

Frequency Range	470 – 934 MHz (region dependent)
Frequency Selection	Sync by receiver ACT function
Switching Bandwidth	64 MHz
Frequency Stability	$\pm 0.005\%$
RF Output Power	< 50 mW at load 50 $\Omega$ , 10 mW or 50 mW switchable
Spurious Emission	< 4 nW
Modulation Type	Digital modulation fixed envelope
AF Frequency Response	20Hz – 20 kHz, selectable low cut filter 100 Hz
Sampling Rate	44.1 kHz
Sampling Size	24 bits
T.H.D.	$\leq 0.01\%$
AF Input Level	2V max. at AF gain = 0 dB ; 7V max. at AF gain = -12 dB ; 20V P-P by protective circuit
Equivalent Input Noise	-125 dBV (9 dBA SPL REF to -46 dB input)
Adjustment Range of Input Sensitivity	48 dB, adjustable in 6 dB steps
AF Input Impedance	6k $\Omega$ , balanced.
AF Input Connector	Standard XLR, 3-pin female.
Phantom Power	Selectable 12 V and 48 V at 10 mA max., off for dynamic microphones
Battery Type	1 $\times$ ICR18500 Li-ION rechargeable battery
Battery Life	> 8-hour for RF power at 10 mW and phantom power off. > 4.5-hour for RF power at 50 mW and 48 V at 2 mA phantom power on.
Dimensions (W $\times$ H $\times$ D)	44 $\times$ 114 $\times$ 37 mm / 1.7 $\times$ 4.5 $\times$ 1.5"
Net Weight	Approx. 165 g / 5.8 oz., excluding battery
Operating Temperature	-10°C to +60°C

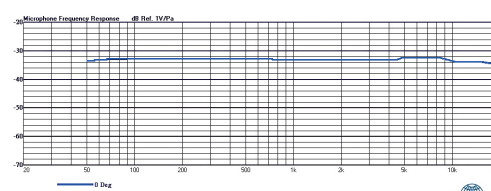
System Frequency Response



Microphone Frequency Response



Frequency response of a wired microphone.



Frequency response of a measurement microphone connected to TA-80 with ACT-80.

# MIPRO TA-80 Digital Plug-on Transmitter

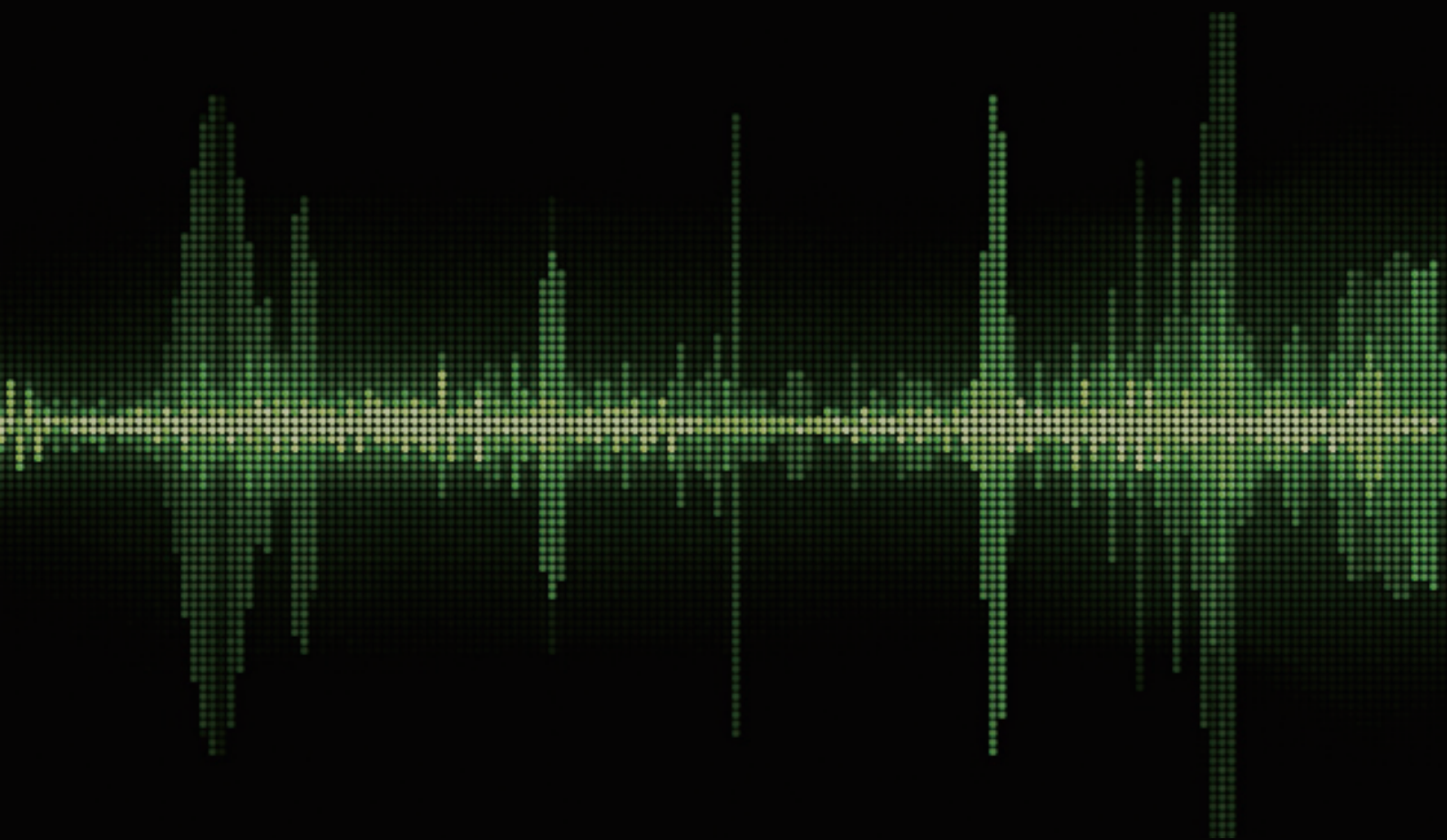
## ACT-818/828/80/80R and TA-80 Overall System Specifications

Model	ACT-828 / ACT-818	ACT-80	ACT-80R
Frequency Range	UHF 480 – 960 MHz (country dependent)		
Bandwidth	64 MHz		
Preset Frequency	12 non-interference compatible frequencies in group 1-10. 16 non-interference compatible frequencies in group 11-16. 16 user-defined frequencies can be stored in group 18. 216 preset frequencies in total.		
Channel Grid	25 kHz. 2,561 selectable frequencies.		
Channel Set-up	Scan & MIPRO ACT sync function		
Audio Sampling	24-bit / 44.1 kHz Rate		
Audio Compression	3rd Generation DSP inertial coding		
Latency	< 2.7 ms (Digital Output)		< 3 ms (Analog output)
Frequency Response	20 Hz – 20 kHz (refer to the diagram)		
S/N Ratio (Analog Output)	> 115 dBA		109 dBA
T.H.D.	≤ 0.01 % @ 1 kHz		
Encryption	256 bit		

## ACT-818/828/80/80R Receivers Specifications

Model	ACT-828	ACT-818	ACT-80	ACT-80R
Chassis / Channel	1U, Dual	1/2U, Single	Compact, Single	
Sensitivity @ 15 dB $\mu$ V	S/N $\approx$ 118 dBA (Digital Output)		S/N $\approx$ 115 dBA	S/N $\approx$ 109 dBA
Image and Spurious Rejection	> 85 dB			
Receiving Mode	Digital Diversity			
Analog Output	Balanced XLR, Unbalanced 6.3 mm (1/4 ")		Mini-XLR	3.5 mm mini-jack
Earphone Output	6.3 mm earphone jack	N/A	N/A	3.5 mm earphone jack
Analog Output	Mic / Line switch		Set in the menu	VR control
Digital Audio Interface	AES3id output. BNC female.		N/A	
Digital Equalizer	10 microphone capsule modeling presets		N/A	
Digital Anti-feedback Equalizer	10 anti-feedback microphone capsule modeling presets		N/A	
PC Interface	USB or RS-232 Interface. Proprietary MIPRO ACT-BUS		N/A	
Display	Full-color VFD		Backlit graphic LCD	
Battery Level	Transmitter battery levels		Transmitter battery levels	Receiver battery levels
Antenna Input	2 $\times$ 50 $\Omega$ TNC female connector		2 $\times$ 50 $\Omega$ SMA female connector	Fixed soft antenna
Power Supply	Built-in 100 – 240 V AC switching power supply	External AC power supply, 12 – 15 V DC, 1A	Supplied by camcorder or external 8 – 15 V DC, 0.5A power supply	2 $\times$ AA alkaline
Power Consumption	15W	7.5W	Approx. 0.7W @ 12V	Approx. 0.6W @ 3V
Dimensions (W $\times$ H $\times$ D)	420 $\times$ 44 $\times$ 245 mm / 16.5 $\times$ 1.7 $\times$ 9.6 "	210 $\times$ 44 $\times$ 230 mm / 8.3 $\times$ 1.7 $\times$ 9 "	73.5 $\times$ 120 $\times$ 28 mm / 2.9 $\times$ 4.7 $\times$ 1.1 "	63 $\times$ 82 $\times$ 23 mm / 2.5 $\times$ 3.2 $\times$ 0.9 "
Weight	Approx. 2.2 kg / 4.8 lbs	Approx. 1.1 kg / 2.4 lbs	Approx. 220 g / 7.7 oz	Approx. 92 g / 3.2 oz
Transmitter	ACT-80H / 80HC Handheld, ACT-80T / 80TC Bodypack & TA-80 Plug-on Transmitter			
Operating Temperature	-10°C – +60°C			
Notes	Refer to actual product in the event of product description discrepancy. Frequency range and maximum deviation comply with the regulations of different countries.			





## **MIPRO Electronics Co., Ltd**

Headquarters : 814 Pei-Kang Road, Chiayi, 60096, Taiwan  
Tel : +886.5.238.0809 Fax : +886.5.238.0803  
[www.mipro.com.tw](http://www.mipro.com.tw) [mipro@mipro.com.tw](mailto:mipro@mipro.com.tw)