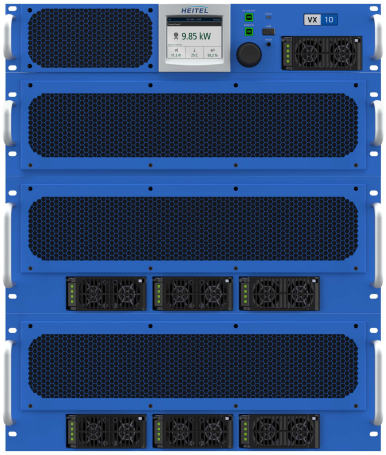
HEITEL VX Series FM Transmitter

VX8-VX10

www.hei-tel.com



The Heitel VX Series of transmitters is a range of compact, solid-state FM transmitters focused on maintainability, power density, and affordability.

MODELS

- VX8: 8 kW
- VX10: 10 kW

GENERAL

- Analog FM rack-mount transmitter
- High power density
- Compact size: 13 RU height and 25”/63.5 cm max depth
- Total weight: 179 lb/81.4 kg
- Heaviest component: 50 lb/22.7 kg
- Altitude: 15,000 ft/4,572 m
- AC to RF efficiency up to 72%
- Single-phase and three-phase AC
- Orban Inside audio processor (option)

USABILITY

- Front Panel User Interface
  - Full color 3.5” TFT display
  - Rotary/push button navigation
  - Dedicated RF and Remote ON/OFF buttons
  - USB port (2.0 Type A)
- Fast software updates
- Variable speed fans for improved acoustics and efficiency

SERVICEABILITY

- Modular components for easy installation and maintenance
- Solderless PA replacement
- Hot-swappable PA power supplies
- Removable, washable air filters
- Front-supported chassis for rail-free rack installation
- Maintainable with common tools

REDUNDANCY

- Automatic audio input failover to a backup source
- Support for main/standby and N+1 configurations
- Remain on-air, reduced power with PA or PS failures
- Remain on-air with 1 fan failure

SOFTWARE

- HTML5 remote control and monitoring (AUI)
- Encrypted network communications
- SNMP v2c
- RDS Encoder with scrollable 64-character PS
- Analog SFN support
- NTP support

AUI (ADVANCED USER INTERFACE)

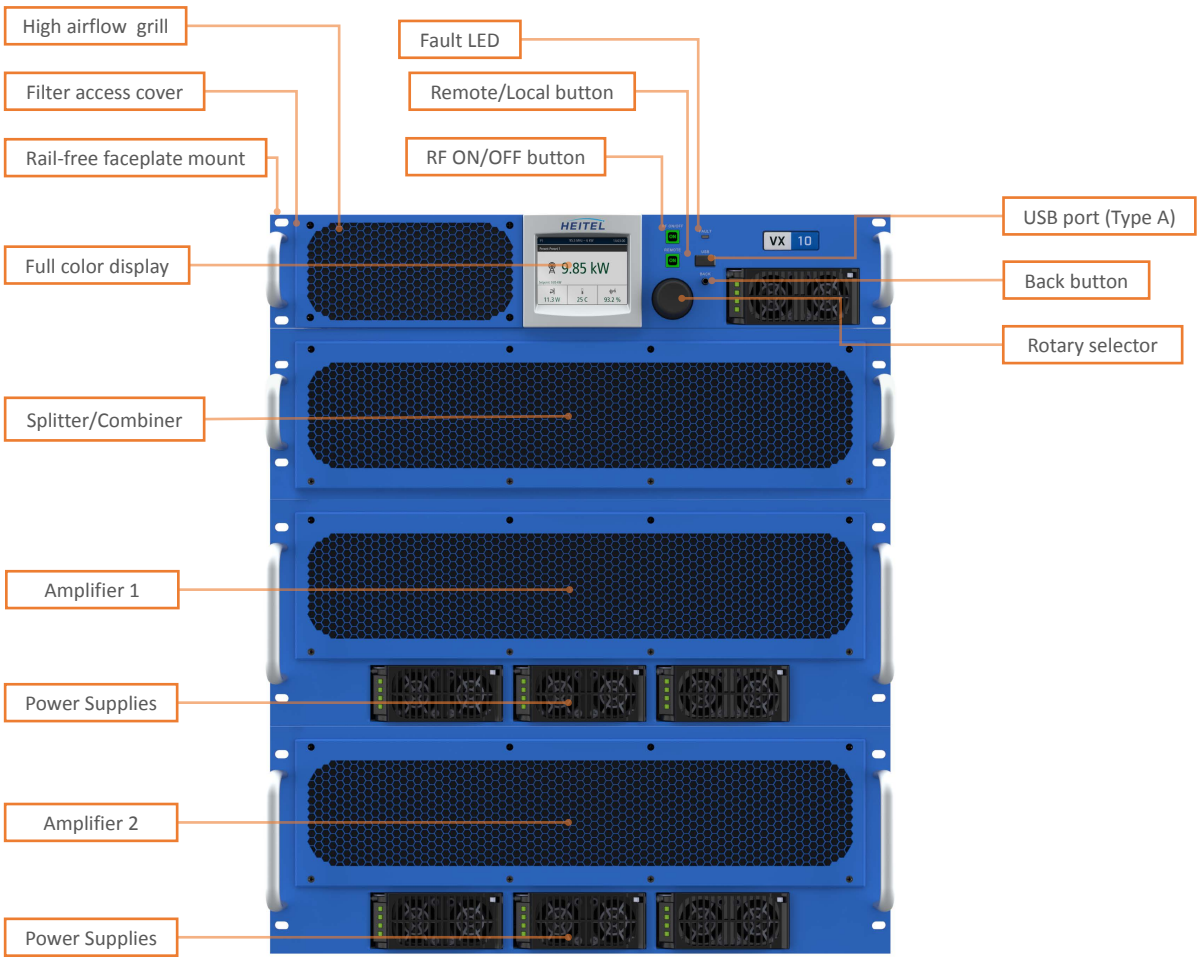
- HTML5
- Comprehensive dashboard featuring meters, alarms, audio, and modulation data
- Instrumentation

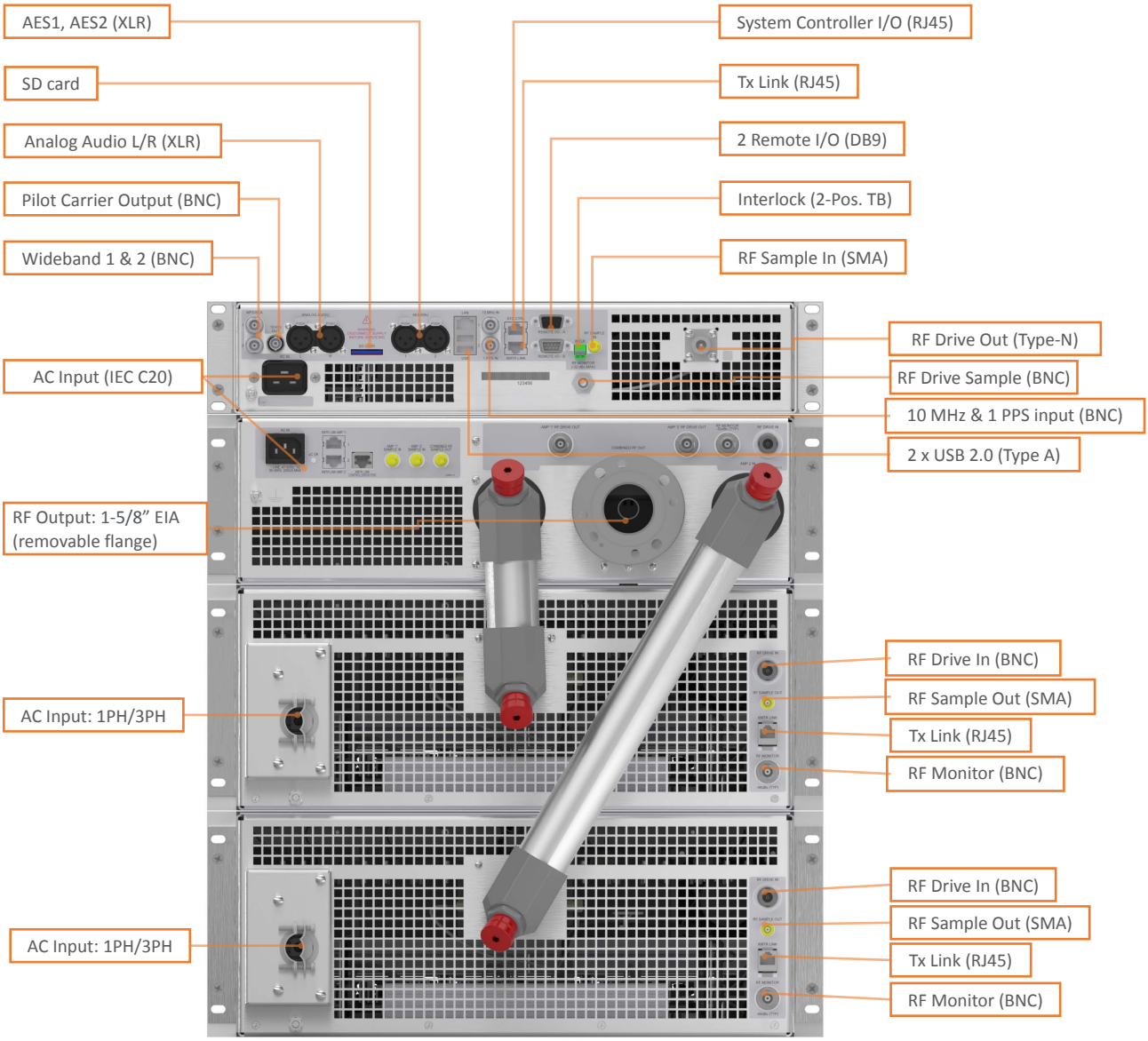
SUPPORT

- 3-Year Warranty
- Phone, online, and email support

REGULATORY

- FCC / ISED / CE compliance


High airflow grill
Filter access cover
Rail-free faceplate mount
Full color display
Splitter/Combiner
Amplifier 1
Power Supplies
Amplifier 2
Power Supplies
Fault LED
Remote/Local button
RF ON/OFF button
USB port (Type A)
Back button
Rotary selector
HEITEL
9.85 kW
VX 10


AES1, AES2 (XLR)
SD card
Analog Audio L/R (XLR)
Pilot Carrier Output (BNC)
Wideband 1 & 2 (BNC)
AC Input (IEC C20)
RF Output: 1-5/8" EIA (removable flange)
AC Input: 1PH/3PH
AC Input: 1PH/3PH
System Controller I/O (RJ45)
Tx Link (RJ45)
2 Remote I/O (DB9)
Interlock (2-Pos. TB)
RF Sample In (SMA)
RF Drive Out (Type-N)
RF Drive Sample (BNC)
10 MHz & 1 PPS input (BNC)
2 x USB 2.0 (Type A)
RF Drive In (BNC)
RF Sample Out (SMA)
Tx Link (RJ45)
RF Monitor (BNC)
RF Drive In (BNC)
RF Sample Out (SMA)
Tx Link (RJ45)
RF Monitor (BNC)

GENERAL	VX8	VX10
Rated Output Power	8 kW	10 kW
Output Power Range	800-8800 W	1000-11000 W
Power Amplifier	12	12
PA power supply	6	6
Pre-Amplifier	1	1
Pre-Amplifier power supply	1	1
Exciter/Controller	Integrated	Integrated
RF Output Connector	1-5/8" EIA with removable field flange	1-5/8" EIA with removable field flange
RF Terminating Impedance	50 ohms unbalanced	50 ohms unbalanced
RF Load VSWR	100% Rated Power into 1.5:1 VSWR	
	110% Rated Power into 1.2:1 VSWR	
	Automatic power reduction into higher VSWR	
	Protected from open and short circuits at all phase angles	
RF Frequency Range	87.5 MHz to 108 MHz in 10 kHz steps	
	No tuning required	
Spurious and Harmonic	ISED specification BETS6 Issue 2	
	FCC CFR title 47 part 2, part 73, and part 74	FCC CFR title 47 part 2 and part 73
EXCITER/CONTROLLER		
Exciter/Controller	Integrated analog FM exciter using direct-to-channel digital modulation	
	Built-in RDS encoder, SCA encoder, and stereo generator	
Audio Sources	2 x AES	
	Analog L/R	
	2 x Wideband (suitable for composite, RDS, or SCA)	
Audio Backup	Automatic changeover to backup audio source in the event that main audio source fails	
FM Signal-to-Noise Ratio: Digital or Analog Stereo Input	80 dB below 100% modulation (reference 400 Hz, measured in 22 Hz to 22 kHz bandwidth with 75 µs de-emphasis and DIN 'A' weighting)	
FM Signal-to-Noise Ratio: Monaural Digital/Analog or Wideband Composite Operation	90 dB below 100% modulation (reference 400 Hz, measured in 22 Hz to 80 kHz bandwidth with 75 µs de-emphasis and DIN 'A' weighting)	

AC INPUT	VX8	VX10
Voltage	185-265 VAC (Nom 208/220/240 VAC) 1PH 47-63 Hz (Line-Line & Line-Neutral) (2 wire plus GND) 185-265 VAC (Nom 208 VAC) 3PH 47-63 Hz (Line-Line & Line-Neutral) Wye or Delta (3 or 4 wire plus GND) 320-460 VAC (Nom 380 VAC) 3PH 47-63 Hz (Line-Line) Wye (4 wire plus GND)	
Power Consumption at Rated Output Power	13.5 kVA	16.4 kVA
Typical Efficiency	71%	72%
Power Factor	Unity Power Factor Corrected (0.995 Typical)	
Power Line Harmonics	IEEE 519-2014	
	EN 61000-3-2	
Exciter/Controller Section	90-265 VAC 1PH 47-63 Hz	
IP CONNECTIVITY		
SNMP	Allows VX Series to be set up as part of a network and monitored remotely via a single control point	
	SNMP v2c	
Remote AUI	Remotely connect to transmitter via HTML5 Advanced User Interface (AUI). Remote connectivity enables parameter setting and transmitter status monitoring from any web-enabled device	
Email Notification	Automatically receive email notifications when an alarm has been activated.	
AUDIO PERFORMANCE		
Asynchronous AM S/N Ratio	Better than 60 dB below reference carrier with 100% amplitude modulation using 75 µs de-emphasis (no FM modulation present)	
Synchronous AM S/N Ratio	Better than 50 dB below reference carrier with 100% amplitude modulation using 75 µs de-emphasis	
Audio Low Pass Filter	0 - 15 kHz 0.005 dB, 90 dB attenuation at 19 kHz	
Stereo Pilot Tone	19 kHz ±2 PPM	
38 kHz Suppression	>80 dB below ±75 kHz deviation reference	
Stereo Separation	>60 dB, 30 Hz to 15 kHz	
Stereo THD	0.025% or less, 30 Hz to 15 kHz, BW = 22 Hz to 22 kHz, 75 µS de-emphasis	
CONTROLLING AND MONITORING		
Local Interface (Front panel LCD)	Presets	
	Logs	
	Status (meters and active alarms)	
Status	Fault LED for status summary	
Remote Interface (AUI)	HTML5, responsive design supports desktop, tablet, and smartphone	
	Software upgrades	
	Presets	
	Remote I/O Setup	
	Status (meters and active alarms)	
	Audio Levels	
	Audio Spectrum Analyzer	

COMPLIANCE	VX8	VX10
Complies with:	ISED specification BETS6 issue 2	
	FCC CFR title 47 part 2 and part 73B	
ENVIRONMENTAL		
Temperature Range	0°C to +50°C / 32°F to 122°F	
	Derate 3°C per 500 m above sea level / 2°C per 1000 ft	
Storage Temperature Range	-25°C to +70°C/ -13°F to 158°F	
Humidity Range	0% to 95% non-condensing	
Altitude	15,000 ft/4,572 m	
Cooling Air Requirements	Exciter/Controller (fixed fan speed): Typical: 40 CFM/68 m^3/hr Max: 130 CFM/221 m^3/hr	
	Splitter/Combiner: Typical: 80 CFM/136 m^3/hr Max: 160 CFM/271 m^3/hr	
	System: Typical (overall): 620 CFM/1054 m^3/hr Max: 1050 CFM/1784 m^3/hr	
PHYSICAL		
Dimensions	Width = 19"/48.3 cm Standard 19"EIA rack with min opening of 17.5“/44.5 cm	
	System: Height = 13 RU/22.75"/57.79cm Exciter/Controller: Height = 2 RU/3.5"/8.9 cm Splitter/Combiner: Height = 3 RU/5.25"/13.3 cm Amplifiers: Height = 4 RU/7”/17.8 cm each	
	Exciter/Controller: Depth = 19.88”/50.5 cm (including output connector) Splitter/Combiner: Depth = 24.91" / 63.3 cm (including flanged 1-5/8" EIA output connector Amplifier: Depth = 24.91”/63.3 cm (including flanged 1-5/8” EIA output connector	
Weight	System: 179 lb/81.4 kg Exciter/Controller: 15 lb/6.8 kg Splitter/Combiner: 34 lb/15.5 kg Amplifiers: 65 lb/29.5 kg each Amplifiers with power supplies removed: 50 lb/22.7 kg each	