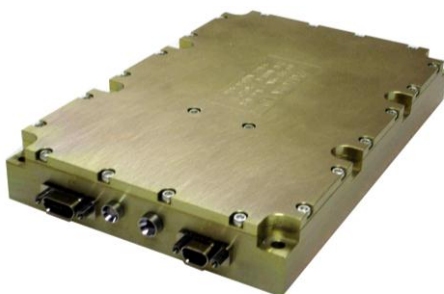


#### Features:

- Multiple Tone Generator with 400 MHz to 450 MHz RF Transmitter
- Up to 100 Watts Output Power as an option. Other output power amplifiers can be provided.
- Carrier Frequency Programmable in 100 KHz steps
- Frequency Selection via Front Panel Touch Screen or through Remote Control Input
- Tone Selection via Front Panel Touch Screen or external switch panel
- Programmed Tone Frequency Combinations and Sequence selection via Front Panel Touch Screen
- Remote Control of Programmed Tone Frequency Combinations and Sequence selection via Front Panel Touch Screen
- Front Panel indication of Selected Tones
- RF Output Enable control via Front Panel Touch Screen or through Remote Control Input
- Windows based Operating System which can be overridden through Remote Control Input
- Password Protected Control Access to Front Panel Touch Screen Control
- Compatible 12 V to 28 V DC powered ruggedised Tone Receiver Unit shown below provides an individual TTL output for each tone detected in the received signal or combinations of encoded tones can be decoded to provide specific outputs



Manually Controlled Unit

USB Remotely Controlled Unit



The Apollotek TEN-900 is a 19 inch rack mounting or Desktop range of Command Tone Encoders and High Power Transmitters which provide the capability to generate and combine individual tones into a composite signal which is then used to modulate an RF Carrier in the 400 MHz to 450 MHz Frequency Band.

The RF Carrier Signal is generated using a standard Apollotek T-900 Series low power transmitter. The Output from the T-900 Transmitter is fed to a 100 Watt RF Power Amplifier to provide the high power output signal which can then be fed to a 50 Ohm Transmitting Antenna (not included).

The standard Tone Frequencies available are shown in the following table:

Channel	Frequency
1	7.5 KHz
2	8.46 KHz
3	9.54 KHz
4	10.76 KHz
5	12.14 KHz
6	13.70 KHz
7	15.45 KHz
8	17.43 KHz
9	19.66 KHz
10	22.17 KHz
11	25.01 KHz
12	28.21 KHz
13	31.83 KHz
14	35.90 KHz
15	40.49 KHz
16	45.68 KHz
17	51.52 KHz
18	58.12 KHz
19	65.56 KHz
20	73.95 KHz

### tone ENCODER AND TRANSMITTER SPECIFICATIONS

#### Electrical and Performance Specification

##### RF Output

Carrier Frequency	400 MHz to 450 MHz programmable in 100 KHz steps
Frequency Selection	Via Front Panel Touch Screen or Remote RS422 Control
Carrier Stability	Within 0.002% of programmed centre frequency
RF Power Output	100 Watts Nominal. Higher power Transmitter systems can be supplied
Output Impedance	50 Ohms
Deviation Level	Programmable and with default value of $\pm 60$ KHz per Tone
Incidental AM	5% Nominal Maximum
Incidental FM	5KHz Nominal Maximum

##### Modulation

Tone Frequencies	Standard Unit support up to 20 Tones. Other combinations available
Tone Selection Indication	Front Screen Display or remote status over USB connection
Remote Control Tone Selection Levels	Through RS422 Serial Data Message from a host PC as standard. USB and Ethernet TCP/IP options available
Tone Stability	Within 0.01% of Tone Centre Frequency
Tone Harmonic Distortion	Less than 1%
RF Modulation Frequency Response	Factory optimised algorithm for selected tone configuration
External Modulation Option	External Modulation Input with pre-set deviation sensitivity

##### Power Requirements

Input Voltage	120 V to 240 V ac 50 / 60 Hz as standard
Input Current	Up to 7.5 Amps nominal (dependent on RF Power Option)

##### Operating Environment

Operating Temperature	$-10^{\circ}$ C to $+50^{\circ}$ C. Forced Air Ventilation required
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##### Mechanical

Dimensions	19 inch Rack Mounting as standard
Weight	Up to 22 kg depending on RF Power Output Option

##### Tone Decoder Specifications

Power Supply	12 V DC to 28 V DC
Output	TTL Output for each detected tone. Other combinations can be supported
Dimensions	170 mm x 110 mm x 22 mm as standard. Other packaging available
Weight	Up to 1 Kg
Operating temperature	$-20$ to $+70$ degrees Centigrade