Cable Monitoring Unit - CMU

DrawCom's Cable Monitoring Unit (CMU) is a two-port device which connects between the "Combiner-Splitter" and the radiating feeders within tunnel bores. The use of a pilot tone system enables complete cable monitoring even with the presence of splitters and couplers.

The CMU comprises both a TX and RX component for proving the integrity of the radiating feeders within the tunnel bores. The CMU TX facilitates the generation of a UHF pilot tone, and the CMU RX is for detection of the pilot tone. Both components provide low insertion-loss to the Radio Transmission System.

The presence of the pilot tone within the specified RX Input Signal Level range indicates that the relevant radiating feeder cable is operational, whereas a 6dB or greater drop in the received pilot tone level indicates a fault in the radiating feeder cable and produces an alarm output from the CMU RX.

- CMU TX Output Frequency and Signal Levels
- A Pilot tone in the range of 400 – 470 MHz away from system traffic, but within the working range of radiating feeder system components. Signal level at the output of the CMU TX 0dBm.
- CMU RX Input Signal Levels
- Pilot tone signal level at the input range to the RX, -10 to -70dBm nominal, +/- 2dB. (This loss is a function of distance/cable type).
- CMU RX Alarm Output

Two fail-safe alarms are provided, one per CMU RX (open-collector output, or alternatively relay 3-pole changeover contacts). Alarm output to be activated by UHF pilot tone receive level dropping by nominal 6dB (+/-2dB) below a preset threshold (between -10 and -70dBm) which is adjusted during installation/ commissioning to match radiating feeder section length & loss.

The threshold adjustment is achieved by manually switching the level-controlling Dip Switches on each RX path. The switches are accessed via an aperture cut in the front panel of the chassis, which is sealed with a plate/cover and a screw.

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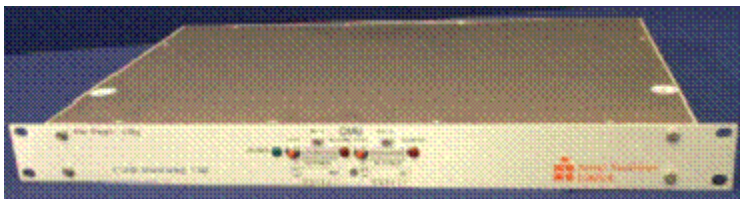
Cable Monitoring Unit - CMU *(cont.)*

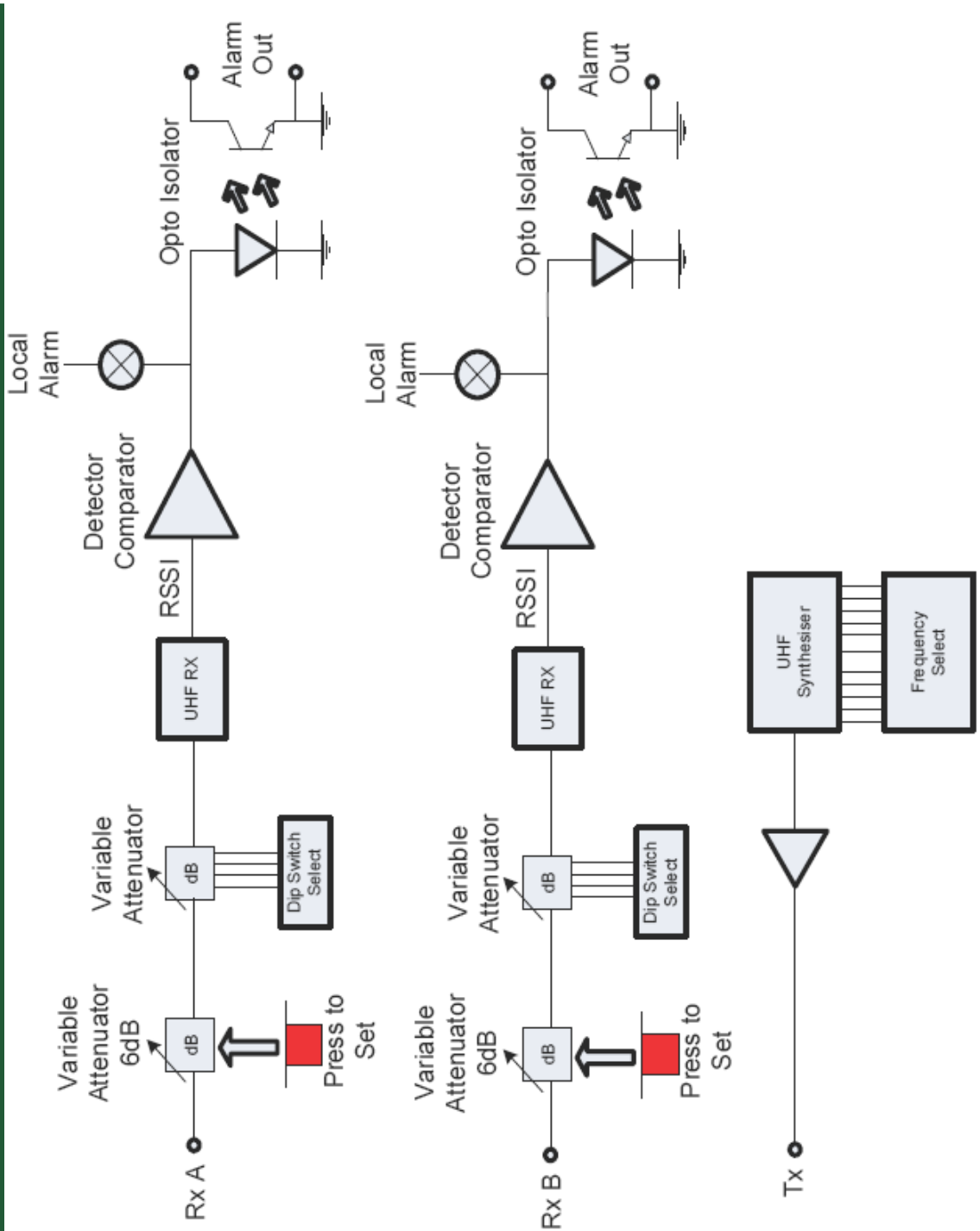


Transmitter Specifications	
TX Frequency Range	400 – 470MHz
Bandwidth	As per request
Number of Programmable Channels	8
Frequency Steps	12.5kHz
Output Level	0dBm at 2 ports (possibly +6dBm 1 port)
Supply Voltage	+12v +/- 10%
Supply Current	<100mA

Receiver Specifications	
RX Frequency Range	400 – 470MHz
Bandwidth	15kHz
Number of Programmable Channels	8
Frequency Steps	12.5kHz
Input Level Detection Range	-70dBm to -10dBm
Detector Alarm Hysteresis	<6 dB from set point
Supply Voltage	+12v +/- 10%
Supply Current	<100mA
Alarm Outputs	1x Open Collector (S/C = Good)

Mechanical Specifications	
19" Rack Mounted	1RU x 450mm deep
Weight	<2kg (1x TX + 2x RX)
RF Connectors	SMA at 50 Ohms
DC Connector	XLR plug
Operational Temperature	-20 to +55 Deg. C
Storage Temperature	-40 to +80 Deg. C

Cable Monitoring Unit - CMU *(cont.)*



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