



WIRELESS TECHNOLOGIES

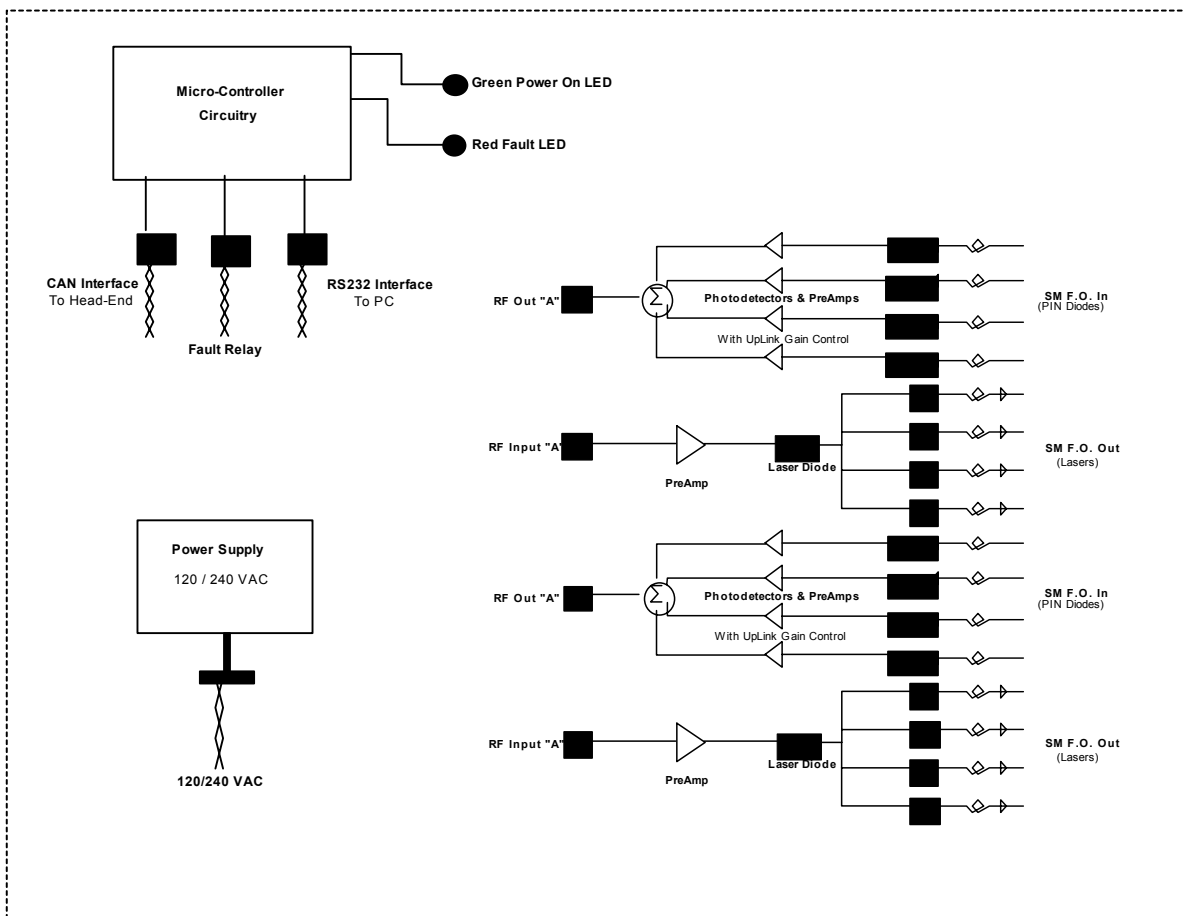
60 Gough Rd., Markham, Ontario, L3R8X7
www.kaval.com, 905-940-3860, 905-946-3003 FAX

USU Block Diagram

April 30, 2004

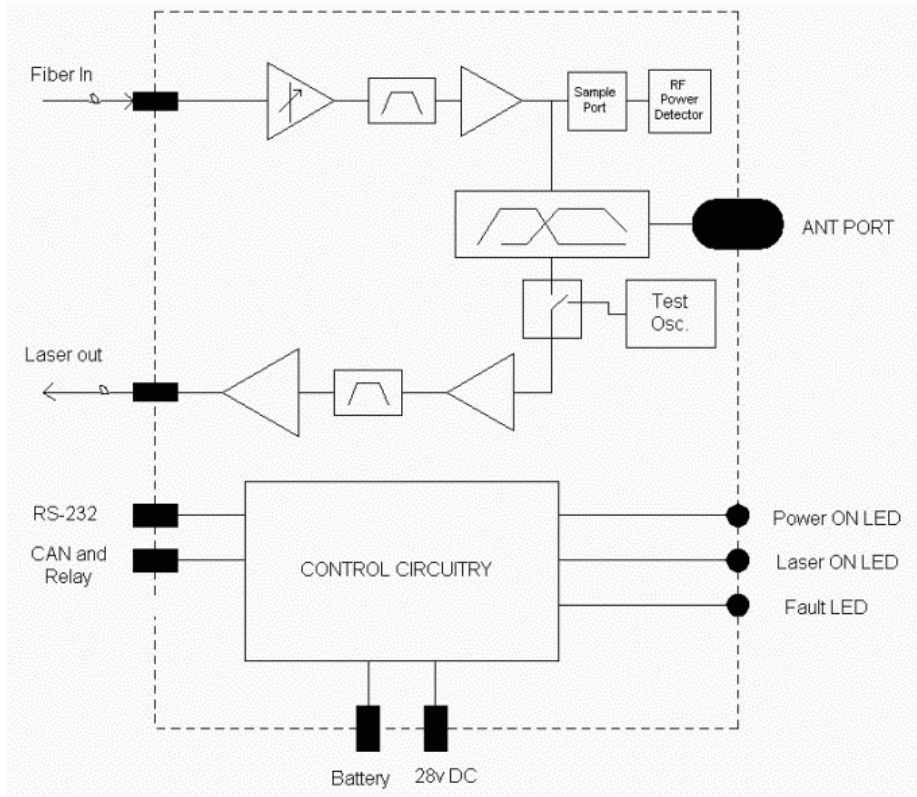
The USU RF to Fiber Modules provide a single-band link from a Head-End Distribution center to multiple local antennae. RF Signals are distributed over a pair of Single-Mode Fiber-Optic Distribution Lines. Note that the Remote Module Fiber-Optic I/O's are band specific, but the Head-End Fiber-Optic I/O's are not; the Head-End I/O's may be used for any band.

LNKFIB-H03 and LNKFIB-H04 Head-End Modules



In the LNKFIB-H03 Head-End Module the 8 Fiber-Optic Pairs are in two groups of four, with the RF connections combined inside the Module in those groupings. The LNKFIB-H04 is identical, but with one group of 4 removed. Each of the Groups of four consists of a single RF Input feeding a single Laser Transmitter split optically to four Fiber-Optic Outputs. The four matching Fiber-Optic Inputs each go to their own Photodiode Receiver, followed by a 0 to -15dB digitally controlled attenuator providing Uplink Gain Control. The RF signals from the four digital attenuators are combined into a single RF Output. The Group-of-Four RF Input and Output combining inside the Module alleviates the need for external combining / splitting.

US Remote Modules



The US series Remote Modules have a Fiber-Optic transceiver pairs downlink and uplink filtering, and an downlink RF Power Amplifier.