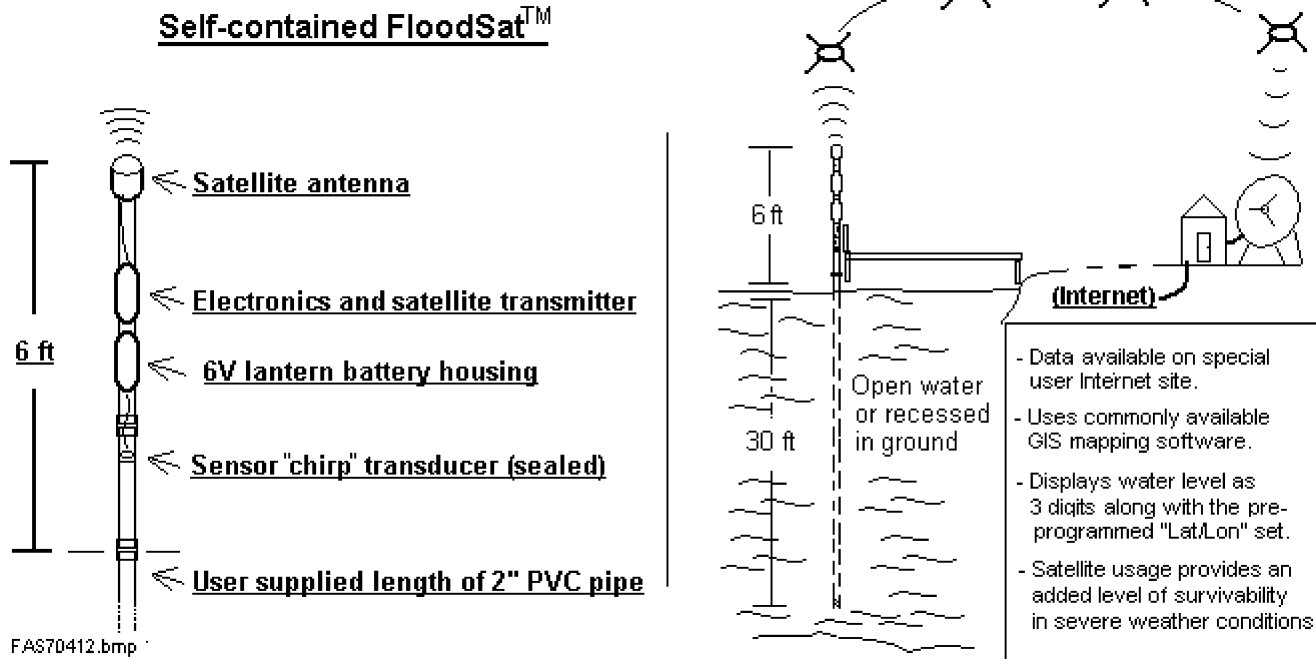# XPONDR®

FloodSat™ water level measurement and satellite reporting system.

**MONITOR FLOOD THREATENING CONDITIONS IN REAL TIME
WITH SATELLITE REPORTING CONTINUOUSLY ON THE INTERNET**

FloodSat™ - now get FloodAdvisor™ self-contained reliability using a satellite up-link

Self-contained FloodSat™

- Satellite antenna
- Electronics and satellite transmitter
- 6V lantern battery housing
- Sensor "chirp" transducer (sealed)
- User supplied length of 2" PVC pipe

6 ft

FAS70412.bmp

6 ft

Open water or recessed in ground

30 ft

(Internet)

- Data available on special user Internet site.
- Uses commonly available GIS mapping software.
- Displays water level as 3 digits along with the pre-programmed "Lat/Lon" set.
- Satellite usage provides an added level of survivability in severe weather conditions

XPONDR® now provides the low cost automatic **Flood Advisor**™ in a satellite up-link design called **FloodSat**™.   It utilizes the unique non-contacting acoustic sound measurement technology of **Flood Advisor**™ for water level measurement. The resulting measurement data is sent to the Globalstar Low Earth Orbit satellite constellation. The down-linked data is then inserted onto a password protected Internet site where it is presented to the user in data chart form. GIS mapping options are also available on the data chart for multiple **FloodSat**™ units so that they can be displayed using the mapping software.

Multiple **FloodSat**™ units can be placed in any area on the same satellite channel as the radio transmission interference is avoided by the very short duration 0.6 second signals. **FloodSat**™ units are easily user programmed with the flooding level, Lat-Long of the location and the user preferred format of data output. **FloodSat**™ units are also user programmed to report at intervals of up to every 15 minutes or down to one per day with the factory supplied software running on any PC using Windows® XP.

FloodSat™ units also have the unique intelligent software AAR, Automatic Accelerated Reporting, which accelerates the reporting intervals when flash floods or sudden drops in water level are sensed. The user sets the trigger point for AAR so any rise or fall of water level beyond that level starts the AAR process. The AAR process allows minimal satellite time when water levels are stable, but more rapid reporting when water levels are changing faster.

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XPONDR®

FloodSat™ water level measurement and satellite reporting system.

Technical specifications

<u>Monitoring water range</u> : for use in salt or fresh water, measurement range is 3-30 ft. (1-10 m), user to supply water immersion pipe of 2" diameter PVC, any length up to 30 ft,.

<u>Monitoring accuracy</u> : reading +/- 0.01 ft., accuracy, including drift & aging < 5%

<u>Environmental operating temp. & humidity</u> : +32 deg. F to +120 deg. F (0-50 C), condensing.

<u>Environmental non-operating</u> : -30 deg. F to + 150 deg. F (-30 C, +65 C)

<u>Satellite telemetry transmitter</u> : Satellite transmitter with antennna pre-programmed for 8 byte up-link data per reported measurement. Power out 400 mwatts, circular polarized high gain antenna resisitant to dirt.

<u>Physical package</u> :
UV resistant plastic pipe 6 ft. high supplied in 3 sections, user assembled. User supplied immersion pipe, up to 30 ft. of 2" PVC, sched. 40 or equiv. (UV resistant or electrical conduit grade). Unit supplied with piling brackets or wall brackets for 2" support pipe. Includes additional 2" coupling for attachment to user pipe. Also includes a bronze bio-filter screen for the open end of user pipe to retard fouling.

<u>Power</u> : Factory supplied 6 Volt alkaline battery (similar to "road flasher type") Expected battery life > 2 years.

<u>Packaging</u> :
Unit consists of circuitry packaged as two circuit boards including the 400 mW transmitter sealed in polyurethane resin cast into an aluminum housing. Module has coax with antenna on one end and battery and programming leads with connectors coming from other end.

Programming

Programming FloodAdvisor is easy through the use of built in software in each unit. All that is needed is the programming cable(supplied) that is attached between the FloodAdvisor and a PC running XP, 98SE or ME.

User entered ID along with the Lat/Lon, and the needed flood level reporting conditions. A selection of user codes can be presented with the water level data. An additional phrase may be added for the data "status" presentation as displayed on the Internet sites.

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