

MONITOR FLOOD THREATENING CONDITIONS IN REAL TIME WITH SELF-CONTAINED 2m APRS SENSOR & TRANSMITTER



FloodAdvisor™ is a self-contained low cost flood water level monitoring device utilizing a unique contactless acoustic sound measurement technology. The flood measurement data is sent as a packet burst using a self-contained 2 meter VHF APRS transmitter of 1-1/2 watts. The **FloodAdvisor** is user programmed with the ham station call and the lat-lon of the location plus other information. The packet data is made highly reliable in transmission by utilizing protocols of the industry standard AX-25 packet code.

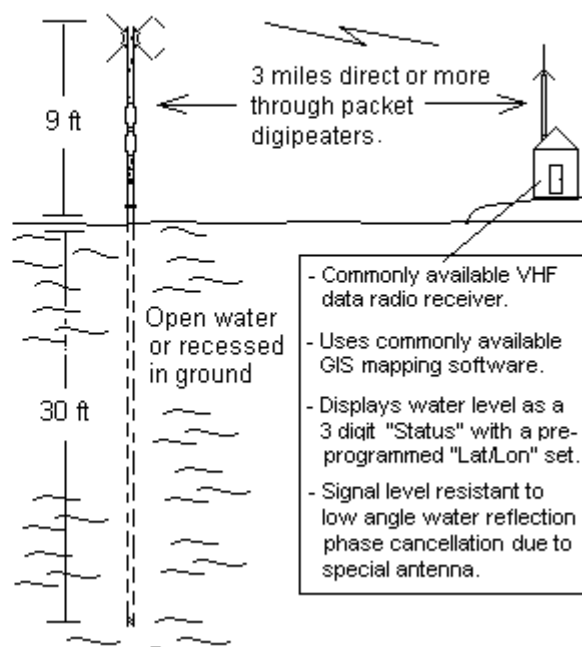
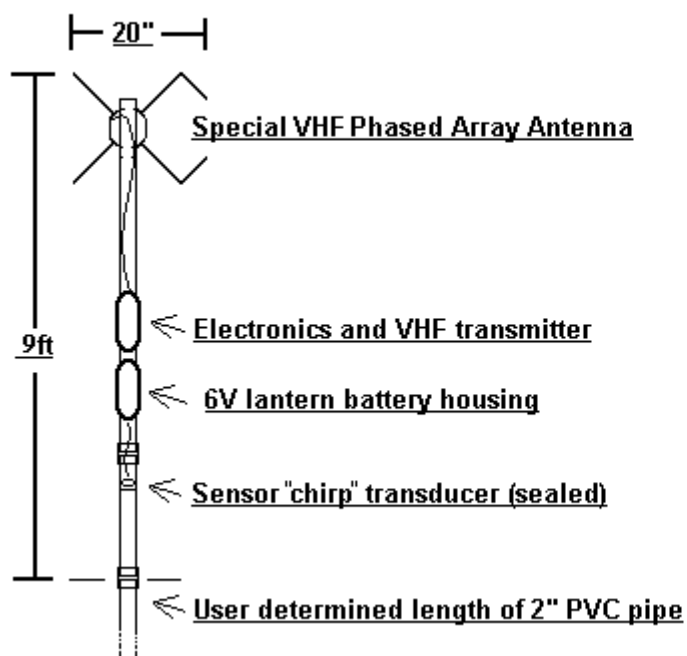
Any 2m receiver can copy the signal directly up to 2-3 miles from a **FloodAdvisor**. The **FloodAdvisor** frequency of 144.390 MHz will be forwarded on the usual APRS/packet network of digipeaters found existing in most areas. Most APRS mapping software will also show the **FloodAdvisor** location as a "H₂O" symbol.

If the water level rises above the preset flood mark, then the symbol changes to a "wave crest" blue rectangle logo with "Flood" inside. Water level data is shown in feet and tenths and is also sent in the AX-25 message as the "status" of the APRS message. It can be viewed in the direct TNC raw packet as a character string. Most "I-gates" will forward the message for viewing on the internet using "findu" or similar services showing the lat-lon of the unit and the "status" flood data.

Multiple **FloodAdvisors** can be placed in flood prone areas on the standard 2m APRS frequency with a very short duration 0.6 second packet signal. **FloodAdvisors** are user pre-programmed with the lat-lon of the location and the user call plus other information concerning data presentation. **FloodAdvisors** can be also be pre-programmed to report at any interval, 5 minutes up to one per day and have AAR (Automatic Accelerated Reporting) for flash flood conditions.

FloodAdvisors can run for years on a standard 6V lantern battery or factory supplied welded and sealed battery pack.

FLOODADVISOR™ WATER LEVEL SENSOR WITH VHF PACKET DATA RADIO



FA70112R.qxd, p1

XPONDR® *FloodAdvisor™ water level measurement and reporting system*

Technical specifications

Monitoring water range : 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.,

Monitoring accuracy : typical +/- 0.1 ft., drift & aging < 5%

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

Environmental non-operating : -30 deg. F to + 150 deg. F (-30 C to +65 C)

Radio telemetry transmitter : Ham version programmed at 144.390 MHz or other VHF frequencies available.

Power out 1-1/2 watts, narrow band FM, AFSK, < 6 KHz dev., 10 ppm stability, har. & spur. rej. >-60 dB.
Modulation AX-25 data at 1200 baud, meets CRC spec. and timing, 0.6 sec. dur. >5 min. repeat rate.
Complies with FCC Part 97. (type approval tested for non-ham radio users)

Physical package :

Assembled including antenna, 7 ft. high pipe x 27" wide at antenna elements. To be attached to user supplied immersion pipe, up to 30 ft., 2" PVC, sched. 40 or equiv. (UV resistant or electrical conduit grade). Unit supplied with piling brackets or wall brackets for 2" pipe. Includes additional 2" coupling for attachment to user pipe. Also includes a bronze bio-filter screen for the open end of user pipe.

Power : Standard 6 Volt alkaline lantern battery (similar to "road flasher type") Expected battery life > 2 years.

Packaging :

Unit consists of circuitry packaged as two circuit boards including the 1-1/2 watt transmitter sealed in polyurethane resin and cast into an aluminum housing. Module has BNC connector on one end and battery and programming leads with connectors coming from other end.

FloodAdvisor Programmer Version 2.3

Call sign, Source Address: SSID:

Digipeater address 1: SSID:

Digipeater address 2: SSID:

Digipeater address 3: SSID:

Hours (Degrees): Minutes (Degrees): Decimal Minutes:

Latitude:

Longitude:

Flood Level Setting: Distance from transducer to flood level point (flood symbol sent when water is above this point)

Maximum Reporting Rate: Fastest reporting rate during AAR conditions

Standard Reporting Rate multiplier: Multiply Maximum rate by Multiplier to get Standard rate (slowest reporting rate)

Change in level for activation of AAR: Automatic Accelerated Rate For increased reporting conditions

Optional ID: ID Number (3 Characters)

Message always sent: ☐ ID # Temp:

Transmit Alternate Message: ID #:

Below 0' message: ☐ ID #:

Above 0' message: ☐ ID #:

Save Settings: Load Settings:

Status: Program FloodAdvisor: Quit Program:

XPONDR®
Largo, Florida USA

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.

For Ham use the call is entered along with the packet routing, the needed flood reporting conditions and a selection of wording to be presented with the packet data. An additional phrase may be added for the data "status" presentation as displayed on the Internet sites.

FA70112R2.qxd, p2