

# Hallikainen & Friends



(Left to right) Harold Hallikainen, Jim Christian, Millind Paranjpe, Mars Dehaesus, Betsy Ehrler and Becky Wilson

## Company Formation

H&F was founded in 1974 by Frank Calabrese, Eric Dausman, Len Filomeo, Gerry Franke, Harold Hallikainen and Rick Smith. The company was originally a "contract engineering" group, serving 12 stations on the central coast of California. In 1977, the company began designing, manufacturing and selling products for the broadcast industry. The need for these products was evident from our work with local stations. With each product, we've avoided the use of "brute force engineering" (keep adding parts 'til it works!), taking the time to develop an elegant design, using as few parts as possible (the ideal design has zero parts).

## Staff

Harold Hallikainen (President) handles sales, technical support and new product hardware and software design.

Betsy Ehrler (Secretary and Treasurer) is responsible for all accounting, inventory control, purchasing and production scheduling.

Millind Paranjpe does new product software design.

Becky Wilson and Mars Dehaesus are responsible for the electronic and mechanical assembly of our products.

Jim Christian handles production testing of all our products.

In addition, the company founders, most of whom are still on the Board of Directors, along with our customers provide input needed to develop new products.

## Products

Our products can be broken into two groups: remote control and audio.

The remote control group consists of the TEL171 and TEL172 digital telemetry systems, the ITO177 Intelligent Transmitter Operator and the DRC190 remote control system.

The TEL171 and TEL172 upgrade the Moseley TRC-15A and PBR-30 analog remote controls to digital metering, improving accuracy and ease of operation. The ITO177 interfaces the TEL171 to a Commodore 64 or 128 computer, allowing user programmed automatic control and logging of broadcast transmitters.

The DRC190 is a flexible remote control system. Each site includes an extended Microsoft Basic interpreter, allowing the user to program the automatic control and logging of the system. The system uses internal data packet modems to allow up to 100 sites to share a single communications link. The system also allows up to 100 analog inputs and 96 status inputs at each site in the system. Some of the larger installations include a nine site radio transmitter control system relying on the standard data packet system, a nine site television transmitter control system using dial up telephone lines and a 30 site radio transmitter control system using dial up telephone lines.

The audio group consists of the TVA142 mixer module and the TVA132 output module. These rack mount modules can be combined into a mixing system providing 36 inputs. These products find application in radio and television newsrooms, dub centers, edit suites, and on air control rooms.

## Product Development

We expect to have several new products ready for the NAB in Atlanta. These include a new low cost transmitter remote control system, a multiple dish satellite steering system and a tower light sensor.

The new remote control system utilizes standard terminals or computers as the control point terminal. The transmitter site equipment utilizes a standard processor board along with custom I/O boards and software. The standard system provides 48 analog inputs, 48 status inputs and 48 control outputs. It can be linked to the control point(s) by any voice grade or digital circuit, including dedicated lines, dial up lines, subcarriers or radio links.

The multiple dish steering system utilizes the same hardware as the new remote control system. The control point(s) can be standard computer terminals or computers. The user interface is through "bounce bar" menus. The control point can be linked to the remote terminal over any digital or voice grade circuit, including dedicated lines, dial up lines, subcarriers or radio links. The system includes a scheduler for automatic dish steering and generates a printed log of all actions.

The tower light sensor is powered by current sense transformers. It rectifies the sensed current and passes it through an active low pass filter. The output of this filter (a steady DC voltage proportional to the sum of the products of lamp currents and duty cycles) is available to drive the analog inputs of remote control systems. In addition, a window detector drives an open drain output suitable for driving the status inputs of remote control systems. This output is pulled low when all lights are operating properly. It will be released on the failure of any lamp or the flasher. Each sensor unit includes three sensors, suitable for three single beacon towers or a single three beacon tower.

## Technical Support

H&F provides 24 hour technical support. We can generally solve the problem over the phone, or will air-freight required parts immediately.

**Hallikainen & Friends, 141 Suburban Road, Building E4, San Luis Obispo, CA 93401-7590**

**Phone 805-541-0200 • FAX 805-544-6715 • Telex 4932775 HFI UI**

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