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March 3, 1971

Dr. Hans Widmer
Omega
Louis Brandt et Frere
2500 Bienne
Switzerland

Dear Dr. Widmer:

Following our conversation with Mr. Leu, I am summarizing the proposed design and development effort leading to prototype liquid crystal watch displays. We recommend and can identify three separate phases.

PHASE I: Design, build, and deliver ten (10) prototypes model liquid crystal watch displays of a specific design supplied by Omega. These displays will be encapsulated into a plastic package. Leads will have to be attached to the display by silver epoxy and the units will be particularly useful to evaluate the display together with your own integrated circuit chips.

The cost of the displays:

- | | |
|------------------------------|----------|
| 1. Materials and Tooling | \$30,000 |
| 2. Ten (10) Numeric Displays | \$20,000 |
| 3. Ten (10) Analog Displays | \$20,000 |

The first phase will be a total cost of \$70,000, less than the \$80,000 mentioned in our previous discussions. The above prototypes will be delivered as soon as possible, but no later than six months from the beginning of the contract.

PHASE II: In parallel with Phase I, we recommend the construction of an electronic breadboard to build the decoder and drive circuitry from the 1 cycle/second signal to the displays. In this phase we also propose to evaluate the optimum method of

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supplying the 15 volts to the liquid crystal display, whether by up-conversion or by a separate battery. We believe through this phase of the effort you will benefit from Optel's experience with addressing the liquid crystal display.

The cost of the design and construction of the breadboard is \$30,000, to be completed no later than six months from the beginning of the contract.

PHASE III: For the end result of Phase III we propose to construct a pre-production prototype of a liquid crystal and deliver chip (from one cycle/second as breadboarded in Phase II) integrated and bonded onto a single substrate. This will include:

- i. Design and fabrication of the driver chip by a suitable MOS house selected by Optel (from 1 cycle/sec to display).
- ii. Manufacture of liquid crystal displays suitable for integration onto suitable substrate using art work selected by Omega.
- iii. Bonding and integrating the display and the chip into a package ready for product evaluation.

Parts ii and iii will be cost-shared by Omega and Optel.

Omega's share of the cost of Phase III, including the MOS chip, is \$65,000. Ten units of this integrated display are to be delivered no later than twelve (12) months from the beginning of the contract.

We believe that through the program outlined above, Omega could most efficiently utilize and profit by Optel's know-how in the liquid crystal display area.

Coupled with the above development effort and with possible follow-on, it is Optel's objective to define an arrangement to be the supplier of the displays to Omega for a period of three years, after which time Omega may manufacture the liquid crystal displays based on an equitable royalty and know-how transfer agreement. The details of this arrangement should be worked out at the initiation of the above contract.

Hope to discuss and delineate these topics with you during my visit to Switzerland either on March 5 or 9.

With kindest personal regards,

Zoltan J. Kiss
President

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