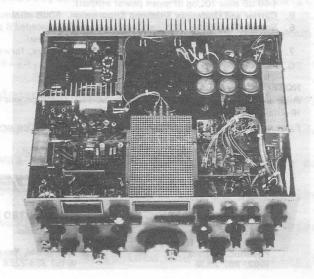
F SIGNAL CX-11A HF TRANSCEIVER

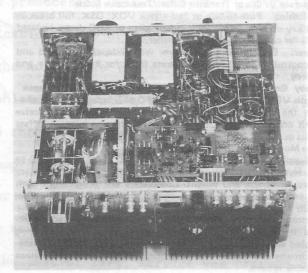
THE ULTIMATE IN INTEGRATED STATIONS



CX-11A - HF Transceiver - The Ultimate in Integrated Stations

Signal/One — First to offer solid state technology in a transceiver expressly designed for the radio amateur, continues this leadership with the introduction of the CX-11A . . . a total concept, fully solid state, synthesized 150 Watt Output Integrated Station all modes all bands (160-10M) made possible by incorporating the most advanced large scale integration; double balanced mixer application; and Hybrid circuitry. Sophisticated engineering combined with mechanical ingenuity developed features which far surpass other equipment claiming to set a standard of performance.





Signal/one CX-11A HF TRANSCEIVER

THE ULTIMATE IN INTEGRATED STATIONS

FEATURES:

- DUAL VFO's, INDEPENDENT CONTROL: Capable of simultaneously receiving two separate frequencies within the same band and trans-
- 150 WATT OUTPUT from a solid state, no tune final utilizing only 50% of its 300 Watt output capability through the use of Motorola® RF Power and Hybrid Linear Amplifier Modules.
- 3. SYNTHESIZED HF 160-10M BAND COVERAGE: Additional 1 MHz bands may be added by programming the diode matrix.
- 4. UNEQUALED SELECTIVITY from 3 cascaded crystal filters, IF shift plus active audio band pass filters and a tuneable peak notch filter. All add up to the most powerful anti-QRM system available today.
- 5. ACTIVE DOUBLE BALANCED SILICONIX® MIXERS provide a plus 20 dbm, 3rd. order intercept point (best attainable receiver IMD in an amateur band transceiver).
- 6. RF SPEECH PROCESSOR: RF envelope clipper plus cascaded 8 pole crystal filters in SSB.
- 7. LED FREQUENCY READOUT: Six digit, 100 Hz resolution display. .43" character height; brightness and multiple colors insure accurate wide angle interpretation.
- 8. CW KEYER; INDEPENDENT AGC; QSK-FASTBREAK IN CW; VOX; RIT; NOISE BLANKER; FULL METERING ALL STANDARD WITH SIGNAL/ONE.
- 9. POWER SUPPLY (BUILT-IN): Heavy duty HyperSil® tape wound transformer for exceptional regulation and power with compact size
- MODULAR CONSTRUCTION utilizing a mass termination ribbon interconnection 3M® system for easy circuit board accessability.

SIGNAL/ONE MODEL CX-11A SPECIFICATIONS GENERAL:

- 1. Frequency Coverage: All amateur bands 1.8 to 30 MHz in full 1 MHz ranges. An additional 1 MHz band may be added in any of the four ranges; 2.0; 4.0:7.0; 8.0:14.0 and 15.0:21.0 MHz by programming the diode matrix for the LSI Digital PLL Synthesizer.
- 2. Frequency Control: Two identical, precision VFO's 1 MHz tuning range, 50 KHz overlap with nominal 25 KHz per knob revolution.
- Readout: Accuracy linearity and reset ability to 100 Hz at any point in any band after calibration against WWV at 15 MHz. MSI Digital Frequency Counter, six digit .43" character height, high brightness and multiple red, amber and green LED's insure accurate wide angle interpretation. Readout up dates 20 times per second.
- Spotting: Push button provides audio beat note for spotting when using separate VFO's or Transmit Offset/Transceive Mode.
- T/R Switching: Push-to-talk or fast-attack VOX; QSK, full break-in CW; fast key-up receiver recovery independent of AGC decay. Isolated terminals for control of external amplifier.
- CW Keyer: Built-in electronic keyer with independent speed and weight control, 5 to 60 wpm. Separate jacks for keyer paddle and manual key.
- Frequency Control Modes: Transceive with either VFO, "split" using both VFO's, transceive on either VFO plus independent receiveonly on the other, or "Transmit and Receive Offset" transceive (Transmit and receive frequencies track and may be instantly offset up to plus or minus. 3 KHz from receive frequency).
- 8. Emission Modes: SSB, CW, FSK.
- Power Supply. Built-in heavy duty supply for 115/230 volts, 50 to 400 Hz. Hypersil® transformer for exceptional regulation and power with very small size and weight. Completely self protecting - both thermal and current overload. Requires approximately 100 watts receive, 600 watts peak at full input.
- Construction. All critical circuitry (except large power supply components) is modular on glass epoxy etched circuit boards utilizing gold plated sockets and pins for easy removal of all transistors, integrated circuits and circuit boards connected by a mass termination ribbon cable system.
- Size and Weight. 16¼"W, x 7¼"H, x 14" deep overall, less feet.

RECEIVING SYSTEM:

- 1. Active Mixers. Two Quad JFET Siliconix®mixers.
- 2. Sensitivity. Better than 116 dBm (.25 uv) for 10 dB S/N ratio at 10 meters (2.4 KHz bandwidth). Matched 50 ohm measurement (10 dB noise figure).
- Selectivity. Standard SSB dual matched 2.4 KHz 8 pole crystal bandpass filters deliver 16 pole, 1.4:1 shape factor performance (6 dB/60 dB).
- Dynamic Range. 98 dB with a 2.4 KHz bandwidth.
- 5. Third Order Intercept Point. Plus 20 dBm based on two -23 dBm signals at the antenna connector, separated by 25 KHz, creating intermodulation distortion products not less than 90 dB below either of the interfacing signals.
- Cross Modulation. With a desired signal greater than -52 dBm, in a 2.4 KHz bandwidth, an unwanted signal, 30% modulated, removed not less than 25 KHz must be greater than plus 2 dBm to produce an output 30 dB below the output produced by the desired signal.
- 7. Compression. (Blocking) with a desired signal of -52 dBm an unwanted signal more than 25 KHz removed must be greater than plus 7 dBm to reduce the output by 3 dB.
- Synthesizer Phase Noise: in 1 Hz bandwidth, -80 dB below carrier.
- Post Detection Peak/Notch Filter with adjustable frequency notch depth and 2.4, 1.5, 1.0, 0.4, 0.1 KHz bandwidth selectivities.
- 10. Audio Output. 2 watts.
- 11. IF Shift. Second IF adjustable up to plus or minus 2 KHz with respect to IF filter passband for interference rejection and receiver audio passband selection. Tracking error, zero.
- Dual Receive. Two channels usable separately or simultaneously; continuously variable relative RF gain control. Either channel may be used for transceiving and the other for receive-only.
- Noise Blanker. Pre-IF blanker with adjustable threshold.

TRANSMITTING SYSTEM:

- Power Amplifier. Solid-state, completely broad-band driver and final; two rugged, Motorola® RF power transistors MRF 422, linear power amplifier conduction-coupled to massive extruded heat sink 150 watts dissipation rating at 25 C ambient. Complete thermal protection. Pretuned bandpass output filter requires no adjustment. Nominal 50 ohm output impedance, will operate into any VSWR without damage. Driver and final broadband 1.8 to 30 MHz.
- Power Output. 150 watts CW/PEP output all bands and modes. Output continuously adjustable down to less than 1 watt.
- Intermodulation Distortion. 35 dB below each of two tones at full PEP output, typical.
- Harmonic and Spurious Output. -65 dB min. meets FCC part 97.73 (-40 dB plus 10Log of mean power output).
- Carrier and Undesired Sideband Suppression. 60dB minimum.
- Speech Processing. RF envelope clipping plus cascaded 8 pole crystal filters in SSB. Clipping adjustable 0 to 20 dB nominal.
- Metering. PA current, PA voltage, clipping, drive, forward and reflected power.

NOTE:

All Signal One Products significantly exceed FCC specifications limiting spurious emissions.

Price and specifications subject to change without notice or obligation.



MANUFACTURED BY:

Signal/One Corporation Franklin Lakes, New Jersey Phoenix, Arizona (602) 997-2536

DISTRIBUTED BY:

Payne Radio Box 100 Springfield, Tenn. 37172 (615) 384-2224

[®] REGISTERED TRADEMARK OF SIGNAL ONE CORPORATION @ 1978 "ALL RIGHTS RESERVED"



PROSPECTUS HIGHLIGHTS

THE COMPANY

Principal Business..... Manufacturers of High Frequency, Single Sideband communications equipment for use in the amateur commercial and military markets.

History

The Signal/One Corporation was founded in Florida in 1967 as a subsisiary of National Cash Register Corporation. In June of 1971, it was sold to Computer Measurements, Inc., Los Angeles, California. Operations ceased in December, 1972.

Signal/One designs, inventories, and assets were purchased by Mr. Don P. Roehrs in September of 1973. The company was moved to Franklin Lakes, New Jersey and commenced operations in January, 1974. A service department for the existing radios was established and research & development of the new CX-11 was begun. The CX-11A is a completely Solid State High Frequency (HF) combination receiver/transmitter. It evolved from its predecessor units, the CX-7 and CX-11.

The new transceiver is a HF communication radio utilizing Solid State design, which is largely a by-product of the Aero-Space industry. This equipment demands a high degree of engineering sophistication and a variety of technical capabilities not generally found outside the Aero-Space industry. The idea was to develop a new generation of no compromise HF communication equipment. The result is a Solid State radio transceiver capable of transmitting and receiving a variety of communication modes worldwide and having all the other usual external equipment built into one unit. During the last of 1974, service was "farmed out"



and from that time through 1976, the development of the CX-11 was the main thrust of the company. Beginning 1977, with a limited number of CX-11's in the field it had become apparent the transceiver in its present form was too costly and time consuming to produce. July 1977, redevelopment was underway and by Feburary 1978, the first pre-production CX-11A was completed. After thorough evaluation, the required results have been acheived and upon acquisition of adequate capital full production will commence.

The Market

The market available for the sale of the CX-11A is derived from three sources; licensed amateur radio operators worldwide, of which there are 950,000, and military, diplomatic and commercial users. We estimate that approximately 10,000 to 15,000 units could be sold in the United States and the military and diplomatic branches of world governments constitutes a much larger market. Signal/One under other management sold over 800 units in less than two years. The reception given the CX-11A at various amateur radio conventions has been more than enthusiastic.

The Armed Forces have shown unusual interest as demonstrated with an invitation to exhibit the CX-11 at their AFCEA conventions in Washington, D.C. Signal/One Corporation was the only manufacture so honored.

At this time, with orders in hand from our dealers, Payne Radio and Sideband Communications, plus the numerous letters of inquiry about possible Signal/One dealerships abroad, assures the success of Signal/One Corporation. The back orders from Payne Radio alone are valued in excess of \$400,000.

A Hypothetical Profit & Loss Statement is presented on pages E1 - E5 with an estimated profit of \$79,000. on the sale of 120 units for the year of 1979.



The Competition

Collins Radio (a division of Rockwell International) is our main competitor, in our price class, as their "KWM-2" transceiver, "S Line" is the product line that has been superseded by the CX-11A. The Collins equipment employs obsolete vacuum tube technology of the 1950's.



SECTION

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- B. The Company: History; Distribution; Biographies of Personnel.
- C. The Competition
- D. Technical Performance
- E. Economics: Expenses; Hypothetical Profit & Loss Statement
- F. New Product Development
- G. Financial



The Market

Introduction

The CX-11A is a versatile, reliable, and completely Solid State communications transceiver with appeal to a broad range of communication interests. Although its immediate market is to the amateur radio enthusiast, both in the United States and abroad, the CX-11 has also prompted great enthusiasm from the communications segment of the United States Military Departments.

The United States Amateur Radio Market

Currently, according to the <u>Radio Amateur Callbook</u>, there are approximately 300,000 licensed amateur radio operators in the United States. From various sources, these amateurs spend between \$150 and 180 million annually on the purchase of equipment in pursuit of their hobby.

The character of the amateur radio operator is quite diverse with an age range from eight to eighty years old. Approximately 38% of the licensed amateurs are under 20 years of age with about 36% in the 20-35 year old age group. Another 18% are between 36 and 50 years of age, and about 1/3 of all amateurs are associated with the electronics industry as technicians, engineers or managerial personnel. Over 1/2 of the United States amateur radio population has attended college while another 18% have gone to various technical schools. This high educational level is reflected in the income distribution of the amateur radio enthusiast. Over 60% have family

signal/one

The Market (contd.)

incomes in excess of \$12,000.00 annually with 20% in the \$15,000.00 - \$20,000.00 range and over 25% having incomes over \$20,000.00. This combination of high technological expertness and above average income leads us to conclude that the amateur will recognize and desire a quality product and have the money to afford it. (From The Stanford Research Institute Report prepared for ARRL.)

A survey by the American Radio Relay League, a nationwide fraternal association of amateur radio operators indicates, that within the past twelve months, over 40% of the active amateurs (about 1/2 of those having licenses) spent in excess of \$1,000.00 on their hobby. About 13% of the active operators spent over \$2,500.00 on amateur radio equipment. What makes these figures even more impressive is that this amount was spent when the equipment offered was of antiquated design.

Based on these surveys, we believe that there is an immediate market for the CX-11A among the United States amateur radio operators for between 10,000 and 15,000 units. With an average selling price of \$4,500.00, this indicates a market potential of \$45 - \$67.5 million dollars.

Signal/One, under two prior managements, sold over 800 units in less than two years. Also, upon the initial announcement of the new CX-11A, our distributor received firm orders for 100 radios plus hundreds of inquiries. Subsequent demonstrations of preproduction CX-11A's at various amateur radio conventions, have drawn enthusiastic attention from prospective buyers. In fact, the question most often

signal/one

The Market (contd.)

asked is not, "What is the price?", but rather, "When can I get one?".

The Overseas Market

The Radio Amateur Callbook, indicates that there are about 116,132 amateur radio operators in Europe, 4,207 in Africa, 50,562 in South America, and 10,729 in Oceania. Although the total number of operators in these countries are not as large as that of the United States, they are affluent. The Callbook, lists 223,357 licenses in Japan and this number is expanding at a faster rate than in the United States. It is estimated that the foreign, non-Japanese market, is about the same size as the United States and that the Japanese market could be even larger.

The CX-11 has been demonstrated at several European amateur radio conventions through the auspices of Sideband Communications AB, Signal/One's European distributor. At one three day convention in Germany our distributor received 35 firm orders with a quoted price of \$6,000 in American currency.

This distributor believes that the foreign governments in Europe will be an even larger market than the amateur segment. One of the reasons for these expectations is the lack of any suitable competitive radio equipment being offered with the performance of the CX-11. As an example of the potential demand for this product, attached are two unsolicited letters from The Santac Corporation, of Tokyo, Japan, and Johan Lagercrantz KB of Sweden requesting dealer-

EXPORTER IMPORTER



SAN-EI BLDG No. 5-1, SHIMO-OCHIAI SHINJUKU-KU, TOKYO, JAPAN TEL. 954-2151

KK-1257 SIGNAL/ONE BOX 127, FRANKLIN LAKES NJ.,07417, U. S. A.

Tokyo, Aug. 12, 1975

Gentlemen:

We are much pleasure in writing this letter by the recommendation of U. S. Trade Center with the purpose to establish favourable business ralationship with your reputed firm in the line of ham instruments with which you are dealing.

Taking this opportunity, we would like to introduce ourselves as one of the leading importers and exporters of electrical equipments, musical instruments and etc.

If you are not represented in this country yet, we shall be more than happy if you would kindly send us all information, namely your quotation with delivery time and general catalogues at your early convenience.

For your information:

We refer you to our main bank The Dai-Ichi Kangyo Bank Ltd., Takatanobaba Branch and you may know all about our standing, and we were registered as a member of Tokyo Chamber of Commerce and Industry by the No. 8794.

Looking forward to hearing from you soon,

Yours very truly,

SANTAC CORPORATION

KIMIRA MANACEE

ER REFERENS/YOUR REFERENCE

1975-09-02

VÅR REFERENS/OUR REFERENCE

Bap/AH

Signal One P.O. Box 127 Franklin Lakes N.J. 07417 U.S.A

Dear Sirs,

Amateur equipment,

We have an immediate requirement from one of our customers for 50 transceivers or separated transmitter receivers. This customer will also use the radios outside the normal amateur bands. Another important parameter is technical documentation and spare parts providing.

We and our customer is interested in your equipment, and in order to learn more about it we would like you to send us documentation like some sets of data sheets and one set of manuals.

Johan Lagercrantz KB is an importing agency for mainly U.S. electronics, and has been in operation since 1938. In 1967 the company was acquired by Bergman & Beving, a company founded in 1906 and with an annual group sales of 40 M \$.

Johan Lagercrantz KB has four sections: Telecommunication, Instruments, Components and Amphenol components. Total annual sales is 5 M \$.

We, on the telecommunication side, are working together with a service company called Telek. Today, Telek has opened a new store downtown Stockholm where we are selling communication radio equipment and Citizens band radio equipment. Therefore, we are interested in being your dealer in Sweden, not only for this single project, but also for continous sales. For a start we would like you to give us P and D for 50 sets basic units with options. I am going to visit the U.S. in October this year and would like to have your answer by the middle of September to be able to plan a visit to you.

Sincerely yours, JOHAN LAGERCRANTZ KB

P. p. Agrata Hugg Bengt Persson



The Market (contd.)

ships from Signal/One. While there is a lack of detailed data about the overseas markets, we feel that they will greatly supplement our United States sales.

The Military Sales Potential

In June, 1975, The United States Navy requested that Signal/
One Corporation furnish several CX-11's for a "on-the-air" demonstration of the Military Affiliate Radio System (MARS) at the Armed
Forces Communication Electronic Association (AFCEA) convention in
Washington, D. C. Officiating Navy personnel informed us that we
were the only manufacturers asked to participate. Their interest
in the CX-11 indicates that they are aware that it is the only
High Frequency communications transceiver manufactured in the United
States today that is capable of meeting future MARS performance requirements.

At the same convention, numerous Air Force personnel operated our equipment and were impressed with the advanced technology that was now available to them. After operating our new radio, Lieutenant Colonel, Peter M. Hurd, Headquarters, United States Air Force, The Pentagon, Washington, D. C., gave us a verbal commitment to evaluate the CX-11. He then stated further that after his evaluation was completed, he would like to use the CX-11 at their Pentagon headquarters.

In a Collin's radio advertisement appearing in the leading amateur radio journal (QST Magazine, July, 1973.p.4) it was stated



The Market (contd.)

that, "... Over 30,000 units of one transceiver have been produced."

This transceiver, the "KWM-2" was designed in 1960 employing solely vacuum tube technology. Today, this unit is still being sold

worldwide to private, commercial, and military users.

To further enhance the upgrading of the MARS High Frequency Single Side Band Systems, the Federal Communications Commission has requested the Office Of Communication Services with headquarters located at, The Richard Gebaur Air Force Base, Grandview, Missouri, to issue a directive to all Air Force MARS stations that, beginning in 1977, all transmitting and receiving equipment used must provide no more than ± 20 Hertz frequency stability. The present Collin's system is unable to meet this requirement. Our military version of the CX-11A does.

At the AFCEA convention, in Washington, D. C., we showed the MARS personnel that this new requirement could be met with our military version of the CX-llA. Further, that these improvements would be in line and consistent with military MARS objectives. Our goal is to present the Air Force with CX-11A's for evaluation in the Fall of 1978 and to follow this with a display at the coming AFCEA convention in June of 1979. It is our opinion that a military contract can be obtained to replace the Collin's, "KWM-2", through out the four service branches of the Armed Forces.



The Company

The Signal/One Corporation was founded in Florida as a division of Electronic Communications, Inc., (ECI) a National Cash Register subsidiary.

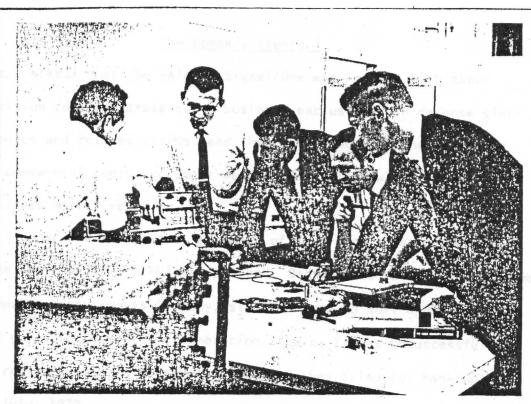
Mr. Richard Ehrhorn, the manager of the advanced development group at ECI, observed that the amateur radio had, for the most part, employed the vacuum tube technology of the 1950's. Thus, the goal of this new group was to produce a new line of high frequency communication equipment utilizing Solid State design, which is largely a by-product of the Aero-Space industry. This equipment would demand a high degree of engineering sophistication and a variety of technical capabilities not generally found outside the Aero-Space industry. Their idea was to develope a new generation of no compromise high frequency communications equipment. This idea grew and became The Signal/One Corporation.

In 1967, research and development began and after two years and approximately I million dollars in expenditures, their efforts resulted in a Solid State radio transceiver capable of transmitting and receiving a variety of communication modes worldwide, and having all the other usual external equipment built into one unit.

The ideas were good but the Florida firm found that the engineering proved to be more extensive than expected and the radio was marketed prematurely, before the engineering was completed. Dispite these problems, this management sold over 400 units.

In June, 1971, the Signal/One division was sold to Computer
Measurement, Inc., Los Angeles, California. Electronic Communications,

signal/one



What's the BIG Idea?

When it's tough to separate last year's science fiction from today's state of the electronic art... when even the "new" transistor has been superseded in many cases by more versatile and efficient devices... and most of the electronics industry has been turned upside down... WHY DOES AMATEUR RADIO STICK TO THE TECHNOLOGY OF THE FIFTIES?

v 'The manager of advanced development for a big communications company—an active ham since his early teens—asked the same question of another long-time enthusiast and nationally-known authority on solid state devices. They observed that effective application of the new technology—largely a product of the aerospace industry—demanded a high degree of engineering sophistication and a variety of technical capabilities not generally found outside of that industry... Their idea... why not organize a group of outstanding professional engineer/hams...to do the job...and develop their own new generation of no-compromise ham gear?

The idea grew ...

Word got around ... and it became obvious from the interest it aroused that a lot of serious amateurs were eager for really modern equipment ...

a unique engineering team...young and enthusiastic...encompassing several advanced EE degrees...more than half-century of up-to-the-minute communications *engineering ex-

perience . . . plus some seventy years' post-war hamming . . . DX, contests, VHF, RTTY . . . the whole spectrum of amateur radio . . .

...and became really big...when the backing of a major corporation turned it into an intensive, full-time professional operation.

The "BIG IDEA" became SIGNAL/ONE.

The "BIG IDEA" became SIGNAL/ONE. SIGNAL/ONE is a new criterion for judging amateur radio equipment ... sophisticated engineering combined with classic ham ingenuity to offer you unprecedented performance ... and operating pleasure. Unique new marketing and warranty policies reflect SIGNAL/ONE's pride and confidence in this superb new line ... and the determination to keep SIGNAL/ONE ... In investment value.

WHAT'S THE BIG IDEA?

It's all the performance ... the versatility and convenience ... the quality ... that a few demanding engineers knew was possible ... and wanted to put into their own ham gear ... They did ... and the result is ... SIGNAL/ONE.

The remarkable SIGNAL/ONE line will soon be available for you to put through its paces...when you use it you'll agree...the idea was great...and the result well worth waiting for...



Indian Rocks Beach, Florida



Inc., stated that the sale of Signal/One was in line with their decision to concentrate ECI's business exclusively in defense electronics and related fields, and that the production and marketing of commercial radio equipment was not consistent with their revised business objective.

Under new management, a number of minor modifications were made but the basic problems remained. Despite the reoccuring problems, Computer Measurements Company, still managed to sell approximately 450 units in 18 months of operation. Again, it was unsuccessful. Operation ceased in December, 1972, and they filed for bankruptcy in July, 1973.

In January, 1973, Don Roehrs, Jr., as a CX-7 owner, learned that this company was experiencing problems and could not meet its service commitments. He then started a service operation for CX-7 repairs. Initial backing was received from Payne Radio, a leading distributor of CX-7's, and an agressive service program was undertaken. As a result of this operation, he personally discovered the technical deficiencies in the design of the CX-7.

In April, 1973, during a discussion with ECI on the possibility of acquiring any parts remaining in Florida, he learned of the possibility that the trademark of the Signal/One Corporation might not have been registered by Computer Measurements, Inc. A short time later, he applied for and was granted the Signal/One trademark by the United States Patent Office.

With the experience he obtained through servicing this equip-



Nº 1016072

THE UNITED STATES OF AMERICA

This is to certify that from the records of the Patent and Trademark Office it appears that an application was filed in said Office for registration of the Mark shown herein, a copy of said Mark and pertinent data from the Application being annexed hereto and made a part hereof,

And there having been due compliance with the requirements of the law and with the regulations prescribed by the Commissioner of Patents and Trademarks,

Upon examination, it appeared that the applicant was entitled to have said Mark registered under the Trademark Act of 1946, and the said Mark has been duly registered this day in the Patent and Trademark Office on the

PRINCIPAL REGISTER

to the registrant named herein.

This registration shall remain in force for Twenty Years unless sooner terminated as provided by law.

In Testimony Whereof I have hereunto set my hand and caused the seal of the Patent and Trademark Office to be affixed this fifteenth day of July, 1975.

C. Marshall tann

COMMISSIONER OF PATENTS AND TRADEMARKS

Int. Cl.: 9

Prior U.S. Cl.: 21

United States Patent Office

Reg. No. 1,016,072 Registered July 15, 1975

TRADEMARK

Principal Register



Signal/One (New Jersey corporation) P.O. Box 127 Franklin Lakes, N.J. 07417, assignee of Don Roehrs, Jr., doing business as Signal/One Franklin Lakes, N.J.

For: RADIO TRANSMITTERS AND RECEIVERS,

in CLASS 21 (INT. CL. 9).

First use September 1968; in commerce September

Applicant disclaims the word "Signal" apart from the mark as shown without prejudice to its common law rights

The drawing is lined for the color red.

Ser. No. 456,953, filed May 9, 1973.

P. YARNALL, Examiner



ment, and his possession of the Signal/One trademark, Mr. Roehrs went to Los Angeles, California, in September of 1973, to attend the bankruptcy sale of the Signal/One Corporation. With the backing of a number of interested investors, he was the successful bidder and purchased all designs, inventories and assets of the company. The price of \$11,500.00 bought parts and components of the CX-7 with a new market value in excess of \$85,000.00.

Since then, Signal/One has operated from quarters located in Franklin Lakes, New Jersey. The number one priority was to establish a reliable service department and to hire engineering personnel to proceed with research and development.

Servicing the CX-7 radios that were produced in Florida and California provided an invaluable source of information for determining and solving the reliability problems. During the servicing, far more problems were encountered than initially were expected. It was evident that some areas of reliability were of such a serious nature that a redesign of whole portions of the radio was necessary. Because of the time factor, the company decided to "farm out" its service business and devote all its time to the redesign and rebuilding of the CX-11.

Several pre-production CX-11's had been shipped to our distributors, Payne Radio in Springfield, Tennessee and Mr. Carl Fjall, Sideband Communications AB, Stockholm, Sweden, for evaluation and sales. The radio has performed as anticipated and both dealers were pleased with its



performance. However, to avoid high production costs and increase profitability we chose to refine three major areas of the CX-11: (1). Remove the wire harness and replace with a 3M Ribbon Cable Interconnection System. (2). Improve the modular design for faster assembly and easier serviceability. (3). Incorporation of a Frequency Synthesizer for maximum frequency stability and to meet rigid military requirements. In addition to the performance improvements of this radio, these changes resulted in a reduction in complexity and an increase in reliability that will make the radio easier to align and will be more repeatable. The final result is our current product, the CX-11A.

At this time all mechanical software has been completed and full production is anticipated by the Fall of 1978. Signal/One is currently considering a location in the Phoenix, Arizona area for the Home Office and production facilities for the CX-11A. We have found this region to be most conducive to our manufacturing needs.



A COLDWELL BANKER COMPANY
BLACK CANYON BUSINESS PARK
LEASING INFORMATION

A. AVAILABLE PRODUCT

- 1. Seven buildings consisting of approximately 78,000 square feet. Buildings 2 and 7 are designed for general office use. Buildings 1, 3, 4, 5 and 6 are designed for office, office/warehouse use.
- 2. Business Properties plans to develop the balance of the property into a Phase II and/or would build to suit for qualified prospects. Land sales are not available at this time, however, please check on each requirement.
- B. OCCUPANCY Within 45 days from completion of working drawings.
- C. LEASING CONDITIONS
 - 1. Term A minimum of three (3) years will be considered. A five (5) year lease is preferred. A shorter term lease may be considered in the spec office/warehouse phase.
 - 2. Office space Buildings 2 and 7 contain approximately 10,000 square feet which are designed for pure office use.

Office/warehouse - Buildings 1, 3, 4, 5 and 6 are designed for office/warehouse containing approximately 10,700 square feet each. Bays are available in units of 1,200 square feet. The ends of each of these buildings are designed for office use. A user can have bays designed for pure office or office industrial type use.

3. Rental

- A. Buildings 2 and 7 \$7.00 full service.
- B. Buildings, 1, 3, 4, 5 and 6 \$360 (\$.30) per month industrial gross (tenant pays janitorial and utilities).
- C. The ends of 1, 3, 4, 5 and 6, which are designed for office, will lease for \$6.75 per square foot full service.
- 4. Use of Premises The property under development is zoned Industrial Park and any use falling within this zoning classification is desired. The park itself is designed for an office park environment. It is anticipated that a majority of this area will be leased to general office, insurance, engineering, electronic and related uses.



Distribution

Worldwide distribution rights to the amateur radio market has been granted to Payne Radio, Springfield, Tennessee. Their rights are renewable annually on April, 1, of each year. Payne Radio has been a leading distributor of amateur equipment, including the CX-7, CX-7A, and worldwide since its conception in 1971. In addition, Mr. Donald Payne, President of Payne Radio, was an initial investor in the Signal/One Corporation.

European rights have been assigned by Payne Radio to Sideband Communications AB, Stockholm, Sweden. In addition to its representation of Signal/One, Sideband Communications imports a wide variety of other non-competetive communications products. As production increases, other dealers will be added both domestically and abroad as the demand warrants. Our company has already received numerous requests for the dealerships and we anticipate no problems in finding suitable representatives through out the world.

Service of the equipment initially will be handled through the factory. As the number of CX-llA's in the field increases, authorized independent service centers will be established.



Biographies of Personnel

Mr. Don P. Roehrs, President, Signal/One Corporation

Background:

Mr. Roehrs is currently employed as President and Chairman of the Board of the Signal/One Corporation.

Mr. Roehrs assumed his duties with the purchase of the Signal/ One Corporation in Los Angeles, California, on Spetember 23, 1973. Space was aquired in Franklin Lakes, New Jersey and after initial set up, operation was begun on January 1, 1974.

Prior to 1973, he worked with his father's Landscape Architectural firm as manager of the swimming pool division. From 1965-1969, he was in the United States Naval Security Group. He was trained at the Electronic Systems Command in San Fransisco, California, and later Fort Meade, Maryland. He was then assigned to the Naval Research Laboratory in Washington, D. C. where he was attached to the Satellite Communications Research and Development effort in West Germany where he was a specialist in prototype manufacturing techniques.

Education:

Mr. Roehrs is a 1964 graduate of Ramapo High School located in Franklin Lakes, New Jersey. He attended Cheshire Academy in Cheshire, Connecticut and attended the Academy of Aeronautics in Long Island, New York. In 1965-1966 he attended the United States Naval Electronics School in San Fransisco, California and in 1967 he completed his Naval training at the National Security Agency at Fort Meade, Maryland. He holdshis advanced FCC license, WA2SAB.



Biographies of Personnel

Mr. Don P. Roehrs, (contd.)

Renumeration:

Mr. Roehrs receives a salary of \$12,000.00 yearly.

Mr. James W. Mastropole, Chief Engineer, Signal/One Corporation

Background:

Mr. Mastropole is currently employeed as a staff engineer with ITT Space Communications in Ramsey, New Jersey. There, he is active in research and development of RF systems; being credited with a large percentage of the associated technological advances and new products of that company over the past three years.

Fairchild Space and Defense Systems, a division at Syosset,Long Island, was his previous employer. At Fairchild, he began with Junior Engineer status during the summers of his last years of college: moving up to engineer, staff engineer and finally, project engineer.

During that time, his responsibilities centered on the design of high-reliability circuitry for military electronic countermeasure systems.

Education:

Mr. Mastropole is a 1970 graduate of The Johns Hopkins University. He holds the degree of Bachelor of Engineering Science. He became involved in electronics through his amateur radio interests and he holds the General F. C. C.license.



Biographies of Personnel

Mr. James W. Mastropole, (contd.)

Remuneration:

Mr. Mastropole is being compensated for his work through assignment of common stock earned at the rate of \$7.25 per hour. This stock, valued at \$1,000.00 per share, as authorized at a stock-holders meeting during March of 1975. To date, he has earned approximately twenty shares of stock.



The Competition

The amateur radio market has a relatively large number of small firms competing for sales. Most of this competition is centered around the general purpose transceiver with a sales price of about \$800.00 to \$1,700. for a complete unit. The main comprtitors at this level are the R.L. Drake Company (privately owned), Swan Electronics (division of Cubic Corporation), Heath Company (division of Schlumberger) and a number of Japanese imports. None of these companys offer a top of the line product.

The industry standard, for many years, has been set by Collins Radio a division of Rockwell International. They offer a line of vacuum tube equipment designed in the 1950's. Their "KWM - 2, S Line" advertised in QST Magazine is similar to the same models introduced around 1960.

Because of their failure to present a modern Solid State product line Signal/One took advantage of their hiatus and with the backing of National Cash Register in 1968, introduced the first Solid State High Technology HF Communication equipment for use in the amateur and MARS (Military Affiliate Radio System) markets. Today, Collins sells a receiver/transmitter/power supply combination (the "S Line") for \$6,192.00 and a transceiver/power supply (the "KWM-2") for \$5,087.00. None of this equipment approaches the performance of the CX-7, much less that of the improved CX-11A.

At this time, with orders in hand from our dealers, Payne Radio and Sideband Communications, plus the numerous letters of inquiry about possible Signal/One dealerships abroad assures the success of Signal/One Corporation. The back orders, from Payne Radio alone are valued in excess of \$400,000.00. We are now ready to capitalize on three years of development.



Technical Performance

The CX-11A is a complete Solid State High Frequency combination receiver/transmitter. It evolved from its predecessor units the CX-7 and CX-11. The attached brochure highlights its major capabilities. In this section we discuss the technical aspects of the CX-11 as well as the new features added to the CX-11A. The result is a highly reliable, serviceable unit with performance exceeding that of any competative transceiver available today. Some basic advantages of this radio are:

- Compactness contains everything needed for transmitting and receiving in a single unit. Not only to be compact but provide for a more efficient operation. External wiring, normally required when external equipment is used, is kept to an absolute minimum.
- 2. Dual VFO's, Independent Control Capable of simultaneously receiving two seperate frequencies within the same band and transmitting on either allowing for complete independent control of the received signal from the transmitted frequency. This unique frequency control ability gives the user the greatest flexibility for split band operations during overseas & military communication. All other transceivers on the market lack this feature.
- 3. 150 Watt Output from a solid state, no tune final utalizing only 50% of its 300 Watt output capability through the use of Motorola RF Power and Hybrid Linear Amplifier Modules. As a result transmitter adjustments are not required when changing from one frequency to another. This is a unique feature that was first introduced by Signal/One in 1969.



1645 W. 135th STREET, GARDENA, CALIFORNIA 90249 • PHONE: (213) 532-9754 TELEX 629-8226

Technical Performance (contd.)

Signal/One has worked in conjunction with Motorola Semiconductor RF Power Group in Phoenix, Arizona for the last 3 years incorporating Motorola's latest RF Power technology that is used in the transmitter portion of the CX-11A. A plus for Signal/One's selection of the Phoenix area for mass production and continuing engineering assistance throughout manufacturing operations.

- 4. Synthesized HF 160-10M Band Coverage additional 1 MHz bands may be added by programming the diode matrix. Complete frequency coverage is now available, 1-30MHz both transmit and receive. One of the most important developments incorporated in the CX-11A. The frequency synthesizer now gives our transceiver the greatest flexibility for military and government use worldwide. Made possible by Large Scale Integration, manufactured by Hughes Aircraft Corporation.
- 5. Unequaled Selectivity from 3 cascaded crystal filters, IF shift plus active audio band pass filters and a tuneable peak notch filter. All add up to the most powerful anti-interference system available today.
- 6. Active Double Balanced Siliconix Mixers provide a plus 20dbm

 3rd. order intercept point (best attainable receiver IMD in an amateur band transceiver. The Dynamic two-signal performance (3rd. order intercept point) of high performance communication receivers is of utmost importance. This is a measure of the level required of two interferring signals, providing a precise result that determines the performance of any receiver, relative



Technical Performance (contd.)

to dynamic range. This rating (+20dbm, 3rd. order intercept point)

provides the highest receiver performance available in an

amateur transceiver. Unique to our industry, Signal/One offers

complete specifications that are reference measurements en
abling verification of the CX-11A performance.

- 7. RF Speech Processor RF envelope clipper plus cascaded 8 pole crystal filters in SSB. A complex form of processing speech to provide improved intelligibility providing an increase in transmitted strength of substantial proportions.
- 8. LED Frequency Readout Six digit, 100 Hz resolution display.

 .43" character height; brightness and multiple colors insure accurate wide angle interpretation.
- 9. CW Keyer; Independent AGC; QSK-Fastbreak in CW; Vox; Rit; Noise Blanker; Full MeteringAll Standard With Signal/One.
 - 10. Power Supply (Built In) heavy duty HyperSil tape wound transformer for exceptional regulation and power with compact size and weight.
 - 11. Modular Construction utilizing a mass termination ribbon interconnection 3M system for easy circuit board accessability.

 Gold plated pins and sockets insure maximum field service ability. Also assists in rapid assembly during construction With all modules complete only 8 hours are required for final assembly. These construction techniques employ the E.I. Dupont Berg System which was originally developed for the Tektronix Corporation and has proven reliable for the last decade.



Economics

Expenses

Under prior agreement, with Payne Radio, 6 CX-11A's will be sold at a price of \$4,000.00 and an additional 94 CX-11A's tentatively priced net to Payne Radio at \$4,000.00 per unit. (see purchase order).

The following charts show the costs associated with these initial deliveries. Sales, general & administrative (S.G. & A.) expenses are assumed to be constant for a production range of 5 to 20 units per month. Labor and material costs are shown per unit. As production volume increases, S.G. & A. per unit will decline proportionally. The production rate may be varied fairly easily within this range by simply adding or subtracting production personnel. With this in mind we have prepared a hypothetical profit and loss statement for 1979 assuming a production rate of 10 units per month.



ECONOMICS

HYPOTHETICAL PROFIT & LOSS STATEMENT

TABLE 1

<u>Item</u>	Units 5-34	Units 35-200	Further Units
Material From Inventory	400.	300.	0
New Materials	1,200.	1,300.	1,600.
Total Material Cost.*	1,600.	1,600.	1,600.
Labor Required Per Unit.	160 hrs.	80 hrs.	80 hrs.
Labor/Taxes Cost per Hour	5.	5.	5.
Labor Cost/Unit	800.	400.	400.
S.G. & A.	8,000./mon.	8,000./mon.	8,000./mon.

^{*} Cost based on purchase of 100 units.



HYPOTHETICAL PROFIT & LOSS STATEMENT

ECONOMICS

Signal/one

			TABLE 2				
	June	July	August	Sept.	Oct.	Nov.	Dec.
Production Rate, 1978	0	0	2	6	7	2	∞ ∞
Direct Labor, Employees	2	6	4	2	9	7	∞
Labor Costs per month	1,600	2,400	3,200	4,000	4,800	5,600	6,400
S. G. & A.	8,000	8,000	8,000	8,000	8,000	8,000	8,000
Material Costs (25 units)	30,000	0-	-0-	-0-	-0-	-0-	-0-
Sales	-0-	-0-	8,000	12,000	16,000	20,000	32,000
Urban Bank (pymt. in full)	26,200	-0-	0	0	-0-	-0-	0-
Operational Income	(65,800)	(76,200)	(79,400)	(79,400)	(76,200)	(69,800)	(52,200)

IMMEDIATE CAPITAL REQUIRED:

23,200	30,000	26,200	79,200
S.G.& A., Direct Labor	Components and Materials for 25 CX-11A's.	Urban National Bank (payment in full).	



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signal/one

HYPOTHETICAL PROFIT & LOSS STATEMENT TABLE 3

ECONOMICS

Items	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Year	
Units Sold,1979 Revenue	30 120,000.	30 120,000.	30,000,	30	120,480,000.	
Material Costs Labor Costs S.G. & A.	39,000. 19,200. 24,000.	39,000. 19,200. 24,000.	39,000. 19,200. 24,000.	39,000. 19,200. 24,000.	156,000. 76,800. 96,000.	
Total Cost	82,200.	82,200.	82,200.	82,200.	328,800.	
1978 Loss Carried Fwd.	(52,200.)	3 (gr., gr.		-, 000.0	(52,200.)	
Operating Income Interest Deprec. & Amort.	(14,400°) 2,000° 3,000°.	37,800. 2,000. 3,000.	37,800. 2,000. 3,000.	37,800. 2,000. 3,000.	99,000. 8,000. 12,000.	
Pretax Income Taxes, Estimated*					79,000.	
Net Income					39,500.	

st Does not include amortization of cost of Research & Development

-E5-

PAYNE RADIO

P.O. BOX 100

SPRINGFIELD, TENN. 37172

DON PAYNE K4ID

Personal Phone: (615) 384-2224

_ DATE 13 Feb., 1978 Signal/One Corp. SUBJECT P. O. Box 127 Franklin Lakes, N. J. 07417 Purchase order No. 824 Quantity Signal/One CX-11A @ \$ 4,000.00 each 100 to be shipped ASAP Payne Radio Inc. Don B. Payne, President SIGNED

PAYNE RADIO

PHONE (615) 384-2224

P. D. BOX 100

SPRINGFIELD, TENN. 37172

February 13, 1978

Mr. Don Roehrs Signal/One Corp. P. O. Box 127 Franklin Lakes, N. J. 07417

Dear Mr. Roehrs,

We received your latest version Signal/One CX-11A last week and immediately gave it a thorough on-the-air testing. I am happy to report to you that it exceeded my expectations in every way, as well as, your published specifications. We have no doubt that it is a "sure winner", and that there is nothing on the market at any price comparable to it.

We have approximately 25 of them pre-sold already with no advertising, and are quite anxious to start delivering them.

We find that it is a most favorable companion transceiver for the Alpha amplifiers which we have been distributing for several years, and feel that we can sell the Alpha and Signal/One combination to a worldwide market.

Enclosed is my purchase order for one hundred CX-11A for delivery as soon as possible.

Very truly yours

Don B. Payne, President

Payne Radio

DP/dl

Enclosure



New Products Development

A wide variety of new products are now being considered. Plans include the development of two seperate hi-performance receivers: One for the amateur and the other for military and commercial use. Also planned are seperate transmitters that will be compatable to these units.

Under consideration is a lower priced transceiver that has been designed and is prototyped by Mr. Carl Fjall of Sideband Communications Sweden, thus broadening our market base.

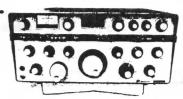
We will manufacture a variety of external accessories for the CX-11A: station consoles, speakers, custom microphones, transvertors and FM equipment.

Another example is a high power Solid State 1-kilowatt linear amplifier. This is currently under development with the Motorola Corporation. It is the first amplifier of this power level to be completely Solid State.

The following advertisement shows prototypes of portions of our production line.

Signal | one

With Signal/One's CX7-A you settled for the best.



Now meet the rest of the best.

A few short years ago, Signal/One introduced the solid-state CX7-A. It was quickly recognized as the world's most advanced radio transceiver. It still is. Now, Signal/One is more than just the CX7-A. A lot more.

For openers, we've added two new receivers. One, the CR-1500, a dual-channel system is so advanced - in selectivity, sensitivity and versatility - you won't

find anything like it this side of a research laboratory. The CR-1200 receiver, our other new one, fea-





tures a single VFO. If it weren't for its bigger brother, it would be the finest receiver you could buy.

There's a new CT-1500 transmitter, the matching transmitter for use with the CR-1200 and CR-1500 receivers. It incorporates all modes of operation and includes the famous Signal/One RF envelope clipping, broadband tuning, full-automatic CW keying, and many other features.

We're also introducing a new transceiver, the CX-10, which contains several CX7-A features. In addition, it can be used with either our new AC or DC power supplies, an external VFO, and other accessories.

Our new accessories include a deluxe station console, speakers, 2-meter and 6-meter transverters with direct digital readout and FM capability, and custom microphones.

In the past years, there were one or two names in amateur radio gear that meant the finest. In their time they were.

Times have changed. Now, if you want the finest, choosing is easy. It's all at Signal/One.

13130 Yukon, Hawthorne, Ca. 90250 (213) 679-9022





SIGNAL/ONE CORPORATION

BALANCE SHEET

December 31, 1977 and December 31, 1976

(Unaudited)

	ASSETS	1977	1976
CURRENT ASSETS: Cash Accounts Receivable Inventory Prepaid Expenses Loans Receivable Officer		\$ 2,122. 4,436. 76,031. 3,724. 13,584. \$ 99,897.	\$ 5,385. 3,636, 88,416. 4,170. 9,985. \$ 111,592.
FIXED ASSETS:			
Machinery and equipment, accumulated depreciation	less	\$ 35,817. 10,355. \$ 25,462.	\$ 35,817. 7,167. \$ 28,650.
OTHER ASSETS: TRADEMARK Research and Development	inches:	\$ 10,000.	\$ 10,000. 163,639. \$ 173,639. \$ 313,881.
LIABILITIES	AND STOCKHOLDER	RS' EQUITY	21
CURRENT LIABILITIES: Accounts Payable Payroll Taxes Payable Notes Payable - Urban Ba - Intercha - Broadway - Equipmen Advances on CX-11's	nge State Bank Bank	1,420. 13,810.	\$ 19,228. 623. 18,000. 7,745. 1,420. 4,932. 10,311.
STOCKHOLDERS EQUITY: Capital Stock Retained Earnings		\$ <u>54,299</u> . \$ 273,500. (<u>6,729.</u>)	\$ 62,259. \$ 258,500. (6,878.)
		\$ <u>321,070</u> .	\$ <u>313,881.</u>



SIGNAL/ONE CORPORATION

STATEMENT OF INCOME AND EXPENSE December 31, 1977 and December 31, 1976

	<u>1977</u>		1976
SALES	\$ 29,680.	\$	40,502.
COST OF SALES			
Labor - Sub-Contract Material Trucking Depreciation Payroll Taxes Commission Expense Other Taxes GROSS PROFIT	\$ 2,130. 18,689. 2,007. 638. - 3,000. 48. 26,512. 3,168.	\$ \$	3,916. 18,681. 1,683. 478. 200. 4,500. 753. 30,211. 10,291.
SELLING AND ADMINISTRATIVE EXPENSES:			
Travel and Sales Conventions Rent Insurance Telephone Accounting Office Expense Miscellaneous Expense Utilities Advertising Interest INCOME OR (LOSS) FROM OPERATIONS	\$ 367. 392. 286. 377. 200. 39. 417. 276 665. 3,019.	\$	3,554. 504. 408. 368. 410. 286. 206. 184. 4,011. 411. 10,342. (51.)
DEFICIT	\$ 6,878.	\$_	6,827.
RETAINED EARNINGS	\$ 6,729.	\$_	6,878.

WESTER Bradstreet, nic. BUSINESS INFORMATION REPORT Please note whether name, business at latreet address correspond with your inquiry. THIS REPORT MAYING THE -L-N-S NO. [7-276-676 SIGNAL ONE CORFORATION & TRANSMITTERS RATING ER ELING AVENLE SIC NOS. STARTED 11974 FRANKLIN LAKES NJ [7417 3F F5

CHIEF EXECUTIVE! DON RCEHRS JR. FRES

TEL 201 8-1-0455

FAYMENTS CEN SLCU EMPLCAZ 1504 HISTORY INCOMPLETE FINANCING SECLRED

STABMYA OLE F DLE TERMS JLAE ES 1975 ZCLD 4 fig 3 Fig 30 FET Slow EC 1 yr 12000 Installment 21ch 30-45 1 yr TFEC TFCC FCC 3[SION FC 1([30 5 10 30

THIS REPORT HAS BEEN SUBMITTED TO CCD Some Review Cest re AT HIS REQUEST CFOR THE SOLE PURPOSE OF REVIEWENG ITS CONTENTS. Cast recuest ANY REPUBLICATION OR REPECDUCTION OF THIS REPORT, IN PART OF IM

1st sale

ITS ENTIRETY, IS AUGUTEORIZADE Don Roerrs deferred a full financial statement. disclayed an unaudited statement prepared by his accountant of Rec Ela 1974 which showed a net worth of \$79.000, principally in inventory and equipment. In addition Sept. 1973 the company had burchased from the receivers of tre previous Signal One (orp ((alif) parts, inventory and equipment in a high five figure amount which had not been made tart of the Dec 31, 574 balance sheet.

Tre Signal One trace name was formerly owned by a Natl Cash Register subsiciary which had designed and produced &SC special combination racio transmitters and receivers (transceivers), The subject has first completed the design update of the original model which will sell for \$4,000 each. The company has orders on hand for 135 of these. Production is just starting. Parts sales for 1874 averaged \$2.000 a month on sets manufactured prior to 1574.

Nov 21. 1574 File #38[677. lists trban National Fark, 865 Franklin Lake Road, Franklin Lakes, New Jersey secured narty. (cilateral: Any and all accounts receivable now or to be acquired in the future and any and all invertory, furniture and fixtures now or to be acquired in the future, including any proceeds from the sale of said Records of the Secretary of State of New Jersey show the following financing statements all listing the subject as debtor:.

Dec 14 1974 File #382.718 listing subject as oetter and Fewlett-Packard (o. 4 126 (entury Road, Faramus, New Jersey as secured party. (cllateral: One Signal generator, one frequency counter and one aigital multimeter.

April 2, 1975 File #391615 listing subject as dettor and Textronix Inc. F O Box 55. Beavertor, Orecor as secured party. (ollateral: A 7L13 spectrum analyzer.

The secured party on the first financing statement reports that this is blanket collateral for security of a loan extended,

The secured party on the second firancing statement reports that the filing represents a lease purchase arrangement or specific equipment.

(CONTINLED)

MATTOBEONPERER PORUTHE EXCLUSIVE HOLD BE THE SOUSEMEN LOWOKEN XCTOR AN CORSIDER M NEGRIEWHON WITH BREDIT DHAMI CHIM COOM BEDOOD I SHEET BEAR BUT AND BUREDING HOW BEENRUGE MORRIOGHUS MORDANGS HORDANG PAIN BUT A THOUGH MORRIOGHUS MORRIOGHUS MAD A MO BUSINESS INFORMATION REPORT

Finale note thether name, business a : I street address correspond with your inquiry.

BIC DUNS

O DUN A BRADITARETRING TO A STATE OF THE SATING THE SAT

An account was opened in a rearby tank in mid-1974 with balances currently ranging in low to moderate four figure proportions. A secured five figure loar has been extended and is currently owing. qualive

ISTORY

ANKING

DON ROEFRS JR + FRES

Reful Incorporated New Jersey laws Aug 58, 15734 with an authorized capital of 1,CCC shares no par value stock. The filing lists for roehrs Jr. Ewing Ave. Franklin Lakes. New Jersey as President, Faic in capital of Dec 31, 1574 was \$80,000.

Active operations started Sept 1574.

DCN RCEHRS born 1545 single. 1965-1585 encaded in electronics while serving in the L S Navy, worked cirectly for the Naval Research laboratory, Eashington, D.C. and American broadcasting (o ir New York in 1570. 1870-74 employed by fathers nursery business at this adoress. Starteo present business in mid 1574 when he acquired tracemark rights for Signal One Corporation: (Registration #1.016.076) for the manufacture and sale of the special purpose contination radio transmitter are receiver. This trace name had been registered by a Natl Cash Register Subsidiary but had lapsed in 1973 and Roenrs applied for the name May 9 1973 Serial *456,953.

PERATION

The company has just completed 18 months of research and development engineering on their new (x-11 transceiver designed to sell for \$4.000 each. The company is now assembling its first units and expects to establish production rates of 25 per month within a year to meet tre established demand and sales. Distribution will be to governmental units, crivate individuals and distributors of electronaic equipment, comestic and worldwice. EMFLOYEES! Employs 4-10.

LOCATION: Occupies a two story cetached building measuring 30' by 60' situated or the premises of his fathers nursery and landscaping busiress. Euilding in rormal repair. C2=11(415 11760/01 11305 183:

THIS REPORT HAS BEEN SUBMITTED TO Don Rockies AT HIS REQUEST FOR THE SOLE PURPOSE OF REVIEWING ITS CONTENTS. ANY REPUBLICATION OR REPRODUCTION OF THIS REPORT, IN PART OR IN ITS ENTIRETY, IS UNAUTHORIZED.

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STOCKHOLDERS AS OF 1/01/78

		Balance Brought Forward	175.
Don P. Roehrs Don M. Roehrs J.D. Van Itallie S. Antonoff J. Antonoff A.H. Rainbow F. Rainbow K. Aimonee J. Botz F. Lawson Don Payne J. Mastropole	47.5 46.0 24. 5. 5. 7. 2. 1. 6.5 2. 9.	P. Flanagan J. Clayton D. Mendelson H. Weiss E. Flynn C.W. Wade D. McAlpine J. Nuccio A. Weiss	7. 8. 7.66 2.5 20. 20. 1. 3. 1.5 245.66
Automotive Security	175		

SCHARF & WEISS COUNSELLORS AT LAW 5 SOUTH FRANKLIN TURNPIKE RAMSEY, NEW JERSEY 07446 HOWARD S. WEISS (201) MORRIS N. SCHARF November 28, 1975 327-0600 (RETIRED) 825-4230 STOCKHOLDERS SIGNAL / ONE CORPORATION Be advised that the annexed securities are non-registered securities within the scope of regulation of the Securities and Exchange Commission. Accordingly, sale to the general public is prohibited. The annexed securities are sold pursuant to exception under Securities and Exchange Commission Rule 240 as applied to the Securities Act of 1933. If you have any questions regarding the above-stated rule, please contact the undersigned. Very truly yours, HOWARD S. WEISS, Attorney for HSW:jh SIGNAL / ONE CORPORATION