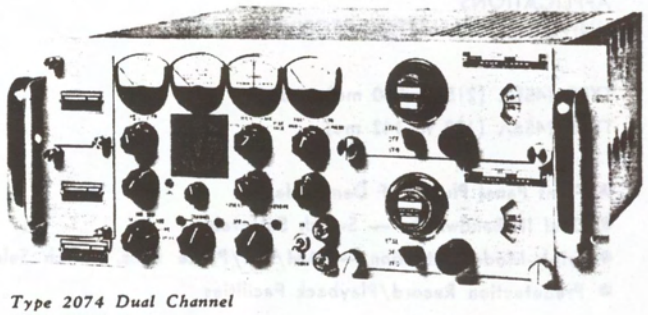
TYPE 2074 DUAL CHANNEL NUVISTOR/SOLID STATE VHF/UHF RECEIVER (55 to 2300 mc)

- Two Complete Receivers in Only 7" Rack Space
- Nuvistor/Solid-State Design
- Building-Block Modularity Throughout
- Dual Diversity, Conical Scan, and Monopulse Automatic Tracking Applications
- Minimum Design and Development for Specialized Requirements



Type 2074 Dual Channel VHF/UHF Receiver

General Description — The new Nuvistor/Solid-State Type 2074 is a complete dual channel receiver requiring only 7" of vertical rack space. This receiver offers a choice of any two plug-in RF heads covering a frequency range of 55 to 2300 mc in nine bands, two independent IF channels, and two separate video amplifiers. Specifications for each channel are generally the same as for the Type 1037A. The Type 2074 derives its inherent building-block flexibility from the expanded solid-state module design concept of the Type 1037A Receiver. This was achieved by designing the chassis of the 2074 to serve as a basic module receptacle. Since each plug-in module is standard in size and uses the same type of electrical connector, appropriate selection of modules allows an extremely wide variety of receiver characteristics to be realized without expensive and time-consuming design and development. Thus the 2074 can be easily modified to fit many highly specialized applications. For example, this receiver can be plug-in assembled to include any two RF heads for dual-range tuning purposes, and a single first and second IF channel, and one video amplifier. Another module configuration contains one plug-in spectrum display unit, one RF head, and two separate IF channels and two video amplifiers. This combination permits the selection of two simultaneous demodulated IF outputs when two IF demodulators are plugged into the front panel. The Type 2074 can also be supplied with two external 3½ inch plug-in demodulator panels to permit rapid switch selection of any one of six different IF demodulators for each separate receiver channel.

Applications for the Type 2074 include dual channel telemetry and surveillance reception, space/polarization/frequency diversity, conical-scan tracking, and monopulse tracking. When the Type 2074 is used with an external Type DCA-5000 Predetection Dual Diversity Combining and Recording Unit (another Nems-Clarke exclusive described on page 10), a 2.5 db improvement in FM threshold is achieved. However, when this improvement is coupled with the 2.5 to 2.8 db improvement in output signal-to-noise ratio of a two channel combiner over that of a single receiver channel, an over-all system improvement of 5 db near threshold can be expected. An external Dual Channel Down and Up Converter, Type COD-2000 for predetection recording purposes is also available, and this is described on page 9. The Type SDU-362, external plug-in Spectrum Display Unit is described on page 11.

For specific details regarding available IF demodulators, information on dual-diversity reception, or for assistance in applying our highly economical building-block principles to your specialized receiver requirements, please fill out attached inquiry card.

SPECIFICATIONS FOR TELEMETRY RECEIVERS
Type 1037A and 2074 (Each Channel)

Frequency Range	55 to 2300 mc using 9 tuners (See Chart I)
Stability	Crystal: ±0.001% using crystal and oven assembly ±0.005% without oven; VFO: ±.001% per degree C
Type	Double conversion, super-heterodyne; 30 mc first IF, 10 mc second IF
Noise Figure	See Chart I
RF Input Impedance	50 ohms nominal
Image Rejection	60 db (minimum)
IF Rejection	80 db (minimum)
IF Bandwidth	See Charts II and III
Selectivity	Shape factor (60:6 db ratio) 2.8 to 1
Panel Meters	Signal Strength, Deviation, Tuning & Video Output
Video Characteristics	
High-level FM Response	1 cps to 2.0 mc; ±3 db
High-level FM Output	10 v. peak-to-peak into a 75 ohm load, or 20 v. peak-to-peak into 1000 ohm load
Low-level FM Response	dc to 250 kc: ±3db (without AFC)
Low-level FM Output	4 v. peak-to-peak with 2000 ohm load
Low-level AM Response	dc to 250 kc: ±3 db (without AGC)
Low-level AM output (1037)	0.6 v. peak-to-peak into 1000 ohm ac load
AM Output (2074)	10 v. peak-to-peak into 75 ohms, 20 v. peak-to-peak into 1000 ohms
Video Filter	Selectable cut-off frequencies of 12.5, 25, 50, 100, 300, 500, 1000 kc; attenuation slope 18 db per octave.
Predetection Recording Output	10 mc center frequency, limited and non-limited
Test Points	Available on all modules and chassis
Power Requirement — 1037A	117/234 vols ± 10% 50 to 450 cps, 50 watts max.
2074	117/234 volts ± 10% 50 to 450 cps, 80 watts max.
Weight — 1037A	37 pounds maximum
2074	50 pounds maximum
Size — 1037A and 2074	7" high x 19" wide (panel) x 16" deep (over-all)