Home Computers and DXing

by Mark Connelly

My previous discussion of this subject (in NRC Dusings, 10 JAN 1977 & in IRCA Forum, 1 JAN 1977) dealt with computer-controlled scanning receivers and associated tape decks. At this time, this is still beyond the realm of most hobbyists. However, there are some DX-related uses to which the Radio Shack TRS-80 & other home computers may now be put. This article attempts to define some of these tasks: it is up to the software specialist to translate these jobs into a suitable programme for his or her system. One application to which the DXer may put the home computer is record-keeping. The DXer enters a file for each logging - data expressed in terms of:

A. frequency
B. call letters
C. station slogan/name
D. station geographic coordinates (if known) & city
E. state or province
F. country
G. day # of reception
H. month " "
I. year " "
J. time of reception
K. strength (1-poor to 5-local)
L. interference (1-heavy to 5-nil) from other stations
M. man-made noise(" " ")
N. atmospheric noise (1-5,as above)
O. fading (1-deep to 5- no fading)
P. overall reception merit (1-poor to 5-excellent)

Q. concise description of programming heard
R. DXer's location (coordinates & a verbal description)
S. receiver used
T. antenna used
U. date report was sent to sta.
V. date veric is received
W. type of veric
X. number of tape reel or cassette used to record the station

Y. tape index #/side #
Z. miscellaneous comments

Each item (A through Z) would be assigned a line when it is entered by the keyboard. These "file cards" could be stored on tape, in memory, or both. The information-retrieval programme could pull out complete files on all stations heard on a given frequency by examining line A on the 'file cards'. Loggings files on individual stations could be sought out on the basis of any combination of data item lines: i. e. all stations heard from 700 to 800 kHz. between 2000 & 2200 GMT during December could be pulled out of memory by examining lines A, H, & J. Such fast information-retrieval capability could enhance ionospheric propagation research, do bearing/distance calculations, write reports for IDXD/DXWW, keep track of DX tapes & QSL's, and predict future catches. A lineprinter could be tied into the computer to give a "hard copy" on paper; otherwise, a CRT display would be used to view stored data.

Additional uses for the home computer might include the utilisation of Ron Schatz's Terminator Transit Mechanics scheme to permit calculation of fade-in and fade-out times. Transmitter and receiver coordinates, and the date would be cranked in: sunset & sunrise times for the transmitter site, receiver site, and intermediary ionospheric control points would be the output. "Conditions of Frequencies" printouts could be generated by inputting the schedules of all stations on a given channel. The DXer would typically hit a 'CoF' mode command: current time would automatically be read from an internal computer clock; a printout of the condition of a given channel (for that minute, for the following hour, or for the rest of the night) would result. The printout would take station schedules into account, as did the charts in Page Taylor's "Compleat DXer" article; furthermore,(if desired) a Schatz-style TXI analysis of the viability of ionospheric propagation along the transmitter-to-receiver path would influence the Condition-of-Frequency printout.

Farther into the future, when propagation prediction becomes an exact science, it should be possible to load in 3 or 4 indices (A or K & several others), the name of a country desired, the time, and the date. The output would be a list of the most likely frequencies upon which to hear the target country. The indices, date, & time could be entered and a summary sheet of all channels, domestic & foreign, would be printed out. This would list all stations likely to be heard on each channel, along with a reception probability-factor rating:

(EXAMPLE) 800 kHz. - 25 DEC 1979 - 2300 GMT

PJB	90%	CJAD	30%	VOWR	5%
CKLW	70%	CHRC	10%	XERCK	1%

APPENDIX - Sample Reception-Data "File Cards"
(note: * means 'unknown', ! means 'not applicable')

A.	1030 kHz.	719 kHz.	1200 kHz.
B.	WBZ	!	YVOZ
C.	Spirit of New England	!	Radiotiempo
D.	71.0W/42.3N - Boston	* - norte	66.8W/10.5N - Caracas
E.	MA.	!	!
F.	USA	Portugal	Venezuela
G.	1700 Z	2000 Z	0100 Z
H.	25	22	18
I.	DEC	NOV	AUG
J.	1979	1979	1978
K.	5	5	4
L.	4 - weak 4VEC het	4-weak YVOZ het	3-WJW growl/WCAU slop
M.	4 - weak YVI	4	4- light dimmer
N.	4	5	4
O.	5	4	3 - slow
P.	4	5	4
Q.	Xmas. mx., Coke ad	PP folksong	ID, SS vocal & horns
R.	65.0W/32.8N-Bermuda	70.2W/41.7N-LA.	52.7W/47.7N - I.F.
S.	R-390A	R-180A	TRF
T.	2 phased 1-km. Bev's	WH2	internal rod
U.	!	24 NOV 1979	20 AUG 1978
V.	!	2 JAN 1980	5 OCT 1978
W.	!	V/A	V/L
X.	3 - cass.	8 - rtr.	7 - 8track
Y.	210 /s. 1	0075 /s. 2	*
Z.	DJ Bruce Bradley	good TA CX tonight	V/s Chico Escuela