

the canadian amateur

July/August 1977

No. 7

T.V. from Space

Beginning August 20, at 14.20 GMT, W6V10, the Jet Propulsion Lab station will be on the air with bulletins and data on the launch of the Voyager spacecraft from Cape Kennedy on its 500 million-mile journey to the planet Jupiter which it will reach in December 1978.

Purpose of the mission is to get photo coverage of the planets Jupiter and Saturn. W6V10 will be on the air during the fly-by periods with operation on CW and SSB, two metre FM, 220 MHz and slow scan TV (SSTV). The August 20 launch event will last for 7 to 9 days, depending on the interest shown by Amateurs.

Details can be had from Norm Chalfin, K6PGX, c/o Jet Propulsion Lab, 4800 Oak Grove Drive, Pasadena, CA 91103, USA, telephone (213) 354-6833.

Special Calls & Prefixes for Canada

To help our readers keep track of all the fancy calls and prefixes being featured on the Canadian scene this year here is a list of those we have been able to ferret out;

For all of us...CY for VE and CK for VO for the balance of this year to mark the Queen's Silver Jubilee year;

Guelph's 150th anniversary is commemorated by Guelph Amateurs with the prefix VB instead of VE. Guelph ARC, Box 1305, Guelph Ont., N1H 6N9 will tell you how to get a certificate for contacting VB stations ... 10 VBs will get you the piece of paper. (Valid until end of 1977.)

Halifax ARC has obtained CF1ISH for the duration of the International Fisheries Exhibition in Halifax this summer.

Stratford Amateurs have VF for 1977

in honour of the 25th anniversary of the Stratford Festival Theatre. A certificate is available...contact Stratford ARC, Box 541, Federal Bldg., Stratford, Ontario, N5A 6T7. (50 cents or two IRC). This is good until the end of this year.

Newfoundland Summer Games will have a special station XO1CSG operating from the games site and other VO stations also may use XO from August 1 to 31.

The prefix CJ instead of VE may be used by Canadian-Japanese Amateurs during 1977 to commemorate the 100th anniversary of the first Japanese immigrants landing in Canada.

VC4UM will be used by the University of Manitoba station VE4UM during 1977 to mark the university's 100th year.

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The Canadian Amateur is the official monthly publication of the Canadian Amateur Radio Federation, Inc. It is distributed to members and is available to others for \$7.00 per year. The Federation is incorporated and operates under a federal charter, with the following objectives:

1. To act as a coordinating body for Amateur radio organizations in Canada;
2. To act as a liaison agency between its members and other Amateur organizations in Canada and other countries;
3. To act as a liaison and advisory agency between its members and the Department of Communications;
4. To promote the interests of Amateur radio operators through a program of technical and general education in Amateur matters.

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(If you want to contact the Federation, write or call a Director in your region or write to CARF, Box 356, Kingston, Ont. K7L 4W2.)

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VE2RA Gene Lajoie, RR 2 Perkins, Que. J0X 2R0.

VO1NP Nate Penney, Box 10, Shoal Harbor, Nfld. A0C 2L0.

Veteran sets in movies

Film-goers who braved shot and shell to sit through "A Bridge Too Far" caught a glimpse of the old No. 19 Set and other veteran radio equipment in a couple of the scenes from the film depicting that ill-fated operation.

WHEN SENDING FUNDS...save time!
Be sure your cheque is filled in fully and correctly...the month must be written out either in full or abbreviated...postal money orders should not be endorsed on the back.

Goodbye to most of 27 CM band?

Although right now the frequencies from 1215 to 1300 MHz may seem of little concern to the majority of Amateurs, who have not ventured higher than 450 megs, there is little doubt that UHF and SUHF bands will be used more and more as time goes on. There are grounds for concern as to what is about to happen to 1215 to 1300 MHz, which in all ITU regions is allocated to Radio-location for primary use and the Amateur Services get it on a secondary basis.

The present use by Amateurs interested in point-to-point, moonbounce and possibly in high orbit satellite is now in jeopardy. The USA military plan to launch soon a series of slowly drifting satellites into a 10,900 mile high equatorial orbit as part of the NAVSTAR navigational aid system. The two downlink frequencies of 1227 and 1575 MHz would contain a 10.23 megaband per second data rate modulation resulting in a modulation spectrum spread of 100 kHz to 20 MHz. Thus any operation by Amateurs within 1227 plus or minus 20 MHz would constitute interference by a secondary priority service...the Amateur service.

So it looks as though the proposal by CARF in its WARC '79 brief to the Canadian government that the top 25 MHz (1275-1300 MHz) be assigned to Amateur use exclusively is a logical solution to retaining trouble-free experimentation in this band.

While such proposals may seem a bit exotic at this time, it is well to remember that WARC '79 will lock in the band allocations for the next 20 years...and a lot can happen in telecommunication technology in that time which could make that band a popular one.

Mini QSLs

MINIATURE QSL CARDS...Calling card size replicas of CARF Canadian QSL Cards available in most styles...basic costs 200 for \$7.00, 300 for \$7.00 and 500 for \$15.00. Send to CARF Canadian QSL Cards, Box 356, Kingston, Ont., K7L 4W2 for details and order form.

Jubilee calls for Canada

“CY” and “CK”

In response to your Federation's request for a distinctive call sign prefix commemorating the Queen's 25th anniversary of her coronation, DOC has made the call prefix CY available in place of the usual VE and CK for VO. This Jubilee call is effective immediately and may be used by all Canadian Amateurs until the end of 1977.

The Request for a distinctive call sign prefix for the Yukon rather than VE8, is still under consideration by DOC.

Amateurs aid in Swiftsure race

Deep-sea sailing can be dangerous and radio communication is important to those running and participating in them.

The annual Swiftsure sailing races starting from Victoria were served again by the Amateurs in the area. Traffic on the Amateur nets was fed into a computer to keep track of all of the competitors' positions in order to maximize the safety aspect of the contest.

The computer was added as a safety feature this year following last year's loss at sea of one of the sailors. The data processing input was provided by Amateur stations on the various patrol boats and the system was geared to spot any craft not sighted with a predetermined time period.

Now Available!

Long term membership

The Board of Directors have approved the introduction of a 5 year membership at a reduced rate and LIFE membership in your national Federation. A 5 year membership may now be taken at the reduced rate of \$30.00 - a saving of \$5.00 over the normal rate - and a LIFE membership at a one-time cost of \$100.00. A 5 year Family membership may be included at an additional cost of \$5.00 per immediate family member;

a LIFE Family membership at an additional cost of \$15.00 per immediate Family member.

In addition, all persons taking out a LIFE membership during 1977 will be classified as CHARTER LIFE MEMBERS and a suitable Certificate will be forwarded. Those members who now have a 5 year membership, that was offered in 1976, may take out a LIFE membership at an additional cost of only \$75.00 if taken out before the end of 1977.

CBC features Amateurs

Amateur radio got a good bit of public relations a couple of weeks ago on the CBC national program "Morningside". CARF Atlantic Director Nate Penny in St. John's, Gord Steane VE3BMG, Toronto (Gord will be remembered by ARRL convention attendees as one of the main ramrodders on the convention committee) and Dave Pace, VE4PN, in Winnipeg did a half-hour round-table commentary via telephone with show's hosts in Toronto.

The boys gave a fine explanation of what Amateur radio is and its role in emergency communications.

Columbia agreement

DOC announces that Columbia and Canada have established special agreements or arrangements providing for, (1) the exchange of international messages on behalf of third parties by amateur stations and (2) reciprocal amateur operating privileges.

New CFB Station

The Amateurs at CFB Gander are now on the air with their own station. Despite 'unification', the proud tradition of the Royal Canadian Corps of Signals is reflected in the station call --VO1RCS.

FLASH - - Cote St. Luc (Montreal area) Amateur acquitted of violating local by-law with tower structure. Details next issue.



Canadian Repeater Advisory
Group

VE3DWL Hugh Lines

For those of you planning a summer trip to the Yukon, VE3AM advises that the Whitehorse area hams operate simplex on 147.33, 146.52 and 146.94 as well as on the 34/94 repeater (VE8BWR).

From VE5 land comes word that VHF activity is still growing, and a number of new repeaters should be on the air sometime this summer. 28/88 machines are proposed for North Battleford and Yorktown, and a 16/76 station is proposed for the Shaunavon area. Linking experiments are being conducted using 220 MHz between VE5ESK in Yellowhead and Melfort. Apparently the Melfort repeater is on the air on 28/88 from a temporary location under the call VE5RPT.

Moving on to the east, we find that The Nipissing FM Association of North Bay has sent along an excellent report of their participation in a local disaster exercise. All went well, and 2m FM

really showed its capabilities to the local officials.

George Davis, VE3BBM advises that a new repeater in Kitchener (VE3XRX) is on the air on 19/79 with 1200 Hz tone access. VE3TTT in London is now on 147.78/147.18. Other new repeaters in Ontario are VE3IXK, Halton Hills on 22/82; VE3LWR, Kenora on 46/06; VE3 DTO, Toronto on a 'split channel', 146.235/146.835; VE3RR, Windsor on 147.90/147.30 and VE3HFR, Windsor on 147.72/147.12.

From the VE2TD newsletter, we are advised of four new Quebec repeaters, VE2RCA, Alma on 07/67 with autopatch; VE2RCM, Alma on 25/85, and VE2RCC, Chicoutimi on 147.72/147.12.

Next issue I should have news from the east coast after a 3 week holiday in VE1 district.

International Repeater List

Amateurs taking their two metre gear with them to far corners of the world or to European countries may be interested in purchasing "The International VHF-FM Guide" which lists frequencies of repeaters and the procedures for getting operating privileges in scores of countries. It is available from Julian Baldwin, G3UHK, 41 Castle Drive, Maidenhead, Berks., England SL6 6DB, for \$3.00 Canadian, which includes airmail postage.

Check your Label

Your membership address label has, as its first line, a coded reference such as: Y - 999 - JUN 77. The "Y - 999" indicates your individual membership number as given on your membership certificate; "JUN 77" indicates that our computer service will print out this label (and all others with this date) in June 1977 and these labels will be forwarded to the CARF HQ Office. The Office will then use the labels to forward a renewal notice.

Note that this member's subscription ends with the next regular issue of The Canadian Amateur following the date given - i.e. September 1978. This year we are supplying a Summer issue (Jul/Aug) as a bonus and this will become a regular issue starting in 1978.

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REPEATER DIRECTORY - SUMMER 1977

QUEBEC

LOCATION	CALL	NOTES	INPUT	OUTPUT
NEWFOUNDLAND				
CORNER BROOK	VO1K1		146.46	146.94
LA. RADUR CITY/WABUSH	VO2AU		146.94	146.94
LABRADUR CITY/WABUSH	VO2AD		146.34	146.94
ST JOHNS	VO1GT		146.46	146.94
PRINCE EDWARD ISLAND				
CHARLOTTETOWN	VE1AHC		146.40	147.00
CHARLOTTETOWN	VE1CQ		146.34	146.94
CHARLOTTETOWN	VE1HI		146.34	146.94
SUMMERSIDE	VE1CFR		146.25	146.85
NOVA SCOTIA				
BRIDGE TOWN	VE1BU		146.46	147.06
DARTMOUTH	VE1PB		146.25	146.85
GOBE	VE1LHR		146.04	146.64
HALIFAX	VE1CUC		146.34	146.94
LIVERPOOL	VE1ASW		146.36	147.00
MT BLOMIDON	VE1AEH		146.58	147.18
MULGRAVE	VE1RT1		146.22	146.82
NEW GLASGOW	VE1HR		146.16	146.76
SPRINGHILL	VE1SPR		146.07	146.67
SYDNEY	VE1JU		146.34	146.94
TRURO	VE1XK		146.19	147.79
TRURO	VE1CG		146.31	146.91
YARMOUTH	VE1YAR		146.01	146.61
NEW BRUNSWICK				
BATHURST	VE1PL		146.34	146.94
FREDERICTON	VE1GT	A	146.34	146.94
FREDERICTON	VE1PD		146.10	146.70
MUNTON	VE1CG		146.13	146.73
PERTH	VE1RPT	A	146.28	146.88
PERTH	VE1KMT		146.40	147.00
SAINT JOHN	VE1K1		146.22	146.82
SAINT JOHN	VE1TFW		146.10	146.70
SAINT JOHN	VE1 ?	NOT KNOWN		
ST STEPHEN	VE1IE		146.25	146.85
SUSSEX	VE1SMT		146.01	146.61
WOODSTOCK	VE1EMT		146.37	146.97
MANITOBA				
BRANDON	VE4BDN		146.34	146.94
FLIN FLON	VE4 ?	P	146.34	146.94
MIAMI	VE4 ?	NOT KNOWN		
WINNIPEG	VE4PIN		146.34	146.94
PORTAGE	VE4PLP		146.25	146.85
SHILU	VE4 ?	P	146.25	146.85
WINNIPEG	VE4XK		146.46	147.06
SASKATCHEWAN				
LAST MTN	VE5AT		146.25	146.85
LLUYDWINSTER	VE5K1		146.34	146.94
MELFORT	VE5RPT		146.28	146.88
MELVILLE	VE5 ?	P	NOT KNOWN	
MOUSE JAW	VE5C1		146.34	146.94
MOUSE MTN	VE5MMR		146.22	146.82
NORTH BATTLEFORD	VE5 ?	P	147.28	147.88
PRINCE ALBERT	VE5EEE		146.46	147.06
REGINA	VE5KE		146.46	147.06
REGINA	VE5SS		146.28	146.88
SASKATOON	VE5SK	1	146.34	146.94
SHUNAVON	VE5 ?	P	147.16	147.76
SWIFT CURRENT	VE5SCR		146.28	146.88
WATROUS	VE5 ?	P	146.01	146.61
YELLUHEAD	VE5ESK	1	146.16	146.76
YORKTON	VE5 ?	P	147.28	147.88
ALBERTA				
1 Linked				
CALGARY	VE6 ?	A	146.16	146.76
CALGARY	VE6AU		146.46	147.06
CALGARY	VE6RPT	1	146.34	146.94
COLD LAKE	VE6OC		146.46	147.06
EDMONTON	VE6MC		146.16	146.76
EDMONTON	VE6HM		146.46	147.06
GRAND PRAIRIE	VE6GUL		146.46	147.06
LETHBRIDGE	VE6CAM		146.28	146.88
MEDICINE HAT	VE6HAT		146.46	147.06
MILK RIVER	VE6BRC		146.16	146.76
HED DEER	VE6AGS		146.46	147.06
ROCKY MTN HOUSE	VE6VHF	1	146.28	146.88
WETASKIWIN	VE6SS		146.34	146.94
BRITISH COLUMBIA				
1 Linked				
CHILLIWACK	VE7ELK		146.40	147.00
DAWSON CREEK	VE7OTE		146.34	146.94
FORT ST JOHN	VE7 ?	P	146.46	147.06
KAMLOUPS	VE7RKA		146.25	146.85
KAMLOUPS	VE7KAR		146.34	146.94
KELUWNA	VE7RUP		146.22	146.82
KIMBERLEY	VE7CAP		146.34	146.94
MAPLE RIDGE	VE7RHR		146.34	146.94
MASSETT	VE7DRZ		146.34	146.94
NANAIMO	VE7ISC		146.04	146.64
NELSON	VE7BTU		146.46	147.06
PRINCE GEORGE	VE7COT	3	146.19	146.79
PENTICTON	VE7OKN		146.34	146.94
PURT ALBERNI	VE7RAC	2	147.84	147.24
PRINCE GEORGE	VE7AFG		146.34	146.94
SALMON ARM	VE7AFH		146.46	147.06
TRAIL	VE7CAQ		146.34	146.94
VANCOUVER	VE7ESR		147.81	147.21
VANCOUVER	VE7UP	P 2	147.90	147.30
VANCOUVER	VE7RPA		146.34	146.94
VANCOUVER	VE7RHT	A	146.34	146.94
VANCOUVER	VE7VAN		147.72	147.12
VANCOUVER	VE7 ?	P	224.30	222.70
VANCOUVER	VE7RHF		448.80	447.20
VANCOUVER	VE7RUG		448.85	447.25
VANCOUVER	VE7RWS		448.85	447.25
VERNON	VE7RWS		146.28	146.88
VICTORIA	VE7VIC	A	146.25	146.85
WILLIAMS LAKE	VE7OSO		146.34	146.94
2 Temp. Call 3 RTTY				

ALMA	VE2RCA	A	146.07	146.67
ALMA	VE2RCM	P	146.25	146.85
ALMA	VE2KZ		146.16	146.76
AMQUI	VE2KH		146.28	146.88
DALE COMEAU	VE2SPR		146.40	147.00
CHALETON	VE2 ?	P	146.22	146.82
CHICOUTIMI	VE2IU	A	146.16	146.76
CHICOUTIMI	VE2RUC		147.72	147.12
DUBEAU	VE2BEA	A 9	146.10	146.70
GASPE	VE2 ?	P	146.28	146.88
GRAND FOND	VE2LIT		146.40	147.00
HULL/OTTAWA	VE2CRA		146.34	146.94
HULL/OTTAWA	VE2CRA		146.34	146.94
HULL/OTTAWA	VE2CSU		146.10	146.70
HULL/OTTAWA	VE2KPG	A	147.96	147.36
HULL/OTTAWA	VE2UCR		146.25	146.85
HULL/OTTAWA	VE2SUA		146.34	146.94
HULL/OTTAWA	VE2ARS	2 3	147.90	147.30
JULIETTE	VE2AMM		146.43	147.03
JONQUIERE	VE2LFB		444.00	442.40
JONQUIERE	VE2VP	9	146.22	146.82
LA TUQUE	VE2EH	9	146.19	146.79
LAC ST JEAN	VE2SP		146.34	146.94
MONT LUGAN	VE2UE		146.16	146.76
MONTREAL	VE2AU		146.31	146.91
MONTREAL	VE2BG		146.46	147.06
MONTREAL	VE2DN		146.16	146.76
MONTREAL	VE2ELM	A	146.04	146.64
MONTREAL	VE2MRC	A	147.22	146.62
MONTREAL	VE2PY		146.28	146.88
MONTREAL	VE2RM	A	146.40	147.00
MONTREAL	VE2VS		146.25	146.85
MONTREAL	VE2VW		146.10	146.70
MONTREAL	VE2HH		222.90	221.30
MONTREAL	VE2HM		444.00	442.40
MONT JULI	VE2RAB	1	146.13	146.73
MOUNT CARMEL	VE2MT	P	146.13	146.73
MONTREAL	VE2MT		146.13	146.73
NOHANDA	VE2ZS		146.10	146.70
PANC DES LAURENTIDES	VE2ES	1	146.28	146.88
PERCE	VE2 ?	P	146.19	146.79
PLESSISVILLE	VE2CRP		146.13	146.73
PURT ALFRED	VE2TG	P	146.43	147.03
QUEBEC CITY	VE2ASU		146.10	146.70
QUEBEC CITY	VE2EB	A	146.28	146.88
QUEBEC CITY	VE2OM		146.24	146.84
QUEBEC CITY	VE2RCA	3	146.25	146.85
QUEBEC CITY	VE2SNC	A	147.72	147.12
QUEBEC CITY	VE2MX	1	146.22	146.82
QUEBEC CITY	VE2VZ	A	146.26	146.86
QUEBEC CITY	VE2VU		146.16	146.76
RIMOUSKI	VE2WM		146.22	146.82
RIMOUSKI	VE2CSL		146.34	146.94
RIVIERE DU LOUP	VE2NY	1	146.16	146.76
RIVIERE DU LOUP	VE200		146.19	146.79
SEPT ISLES	VE2NSI		146.34	146.94
SHERBROOKE	VE2SS		146.16	146.76
SHERBROOKE	VE2TA		146.19	146.79
ST JEAN	VE2CVR		147.84	147.24
TROIS RIVIERES	VE2AT		146.07	146.67
TROIS RIVIERES	VE2LRT		146.34	146.94
TROIS RIVIERES	VE2VW		147.90	147.30

1 = Linked 2 = Temp. call 3 = RTTY/FAX 9 = Linked

LOCATION	CALL	NOTES	INPUT	OUTPUT
ONTARIO				
BELLEVILLE	VE3EJB	A	146.43	147.03
BELLEVILLE	VE3RPM		146.40	147.00
BRACEBRIDGE	VE3MKT		146.28	146.88
BRAMPTON	VE3MHZ		146.28	146.88
BRANTFORD	VE3TRC		147.75	147.15
BROCKVILLE	VE3BCK		146.37	146.97
BROCKVILLE	VE3BAT		146.46	147.06
BURLINGTON	VE3RBY		147.81	147.21
CARLETON PLACE	VE3FKE		147.87	147.27
CHATHAM	VE3HCR		147.72	147.12
CORNWALL	VE3SVC		147.78	147.18
DEEP RIVER	VE3NRR		146.16	146.76
ELLIOT LAKE	VE3NSR	P	146.10	146.70
FORTY	VE3WFM		147.69	147.09
GODFRICH	VE3GOD		146.43	147.03
HALTON HILLS	VE3IKK		146.22	146.82
HAMILTON	VE3DRH		146.16	146.76
KENORA	VE3LWR		146.34	146.94
KINGSTON	VE3KEN		146.46	147.06
KINGSTON	VE3KNR		146.19	146.79
KITCHENER	VE3KSK		146.37	146.97
KITCHENER	VE3KRX		146.19	146.79
LONDON	VE3LAC		146.34	146.94
LONDON	VE3NDT		146.34	146.94
LONDON	VE3RGM		146.16	146.76
LONDON	VE3TIT		147.78	147.18
LONDON	VE3LSP		146.46	147.06
MONTREAL RIVER	VE3TAR		146.34	146.94
NEW LISKEARD/COBALT	VE3TAR		146.46	147.06
NEW LISKEARD/COBALT	VE3SVR		146.16	146.76
NORRISBURGH	VE3NFM		146.34	146.94
NORTH BAY	VE3LSS		146.25	146.85
ORILLIA	VE3JSH		147.72	147.12
OSHAWA	VE3JSH		146.34	146.94
OTTAWA/HULL	VE2CRA		146.10	146.70
OTTAWA/HULL	VE2CSU		146.10	146.70
OTTAWA/HULL	VE2KPG	A	147.96	147.36
OTTAWA/HULL	VE30CR		146.25	146.85
OTTAWA/HULL	VE3JRA		146.28	146.88
OTTAWA/HULL	VE3ARS	2	147.30	146.90
OTTAWA/HULL	VE2CHA		146.30	146.90
OWEN SOUND	VE3JSH		146.34	146.94
PETERBOROUGH	VE3KRA		222.34	222.94
PETERBOROUGH	VE3RUB		146.34	146.94
PURT COLBORNE	VE3WCR		147.00	146.60
RAMURE	VE3TIR		146.46	147.06
RENFREW	VE3STP	1	146.46	147.06
ST CATHERINES	VE3SRS		147.84	147.24
SARNIA	VE3SAR		146.46	147.06
SAULT STE MARIE	VE3SJI		146.28	146.88
SAULT STE MARIE	VE3SSM		146.34	146.94
SAULT STE				

Amateurs fight fire

From Barry Ogden, VE5BO, in Prince Albert comes a detailed story of how Prince Albert and vicinity Amateurs supplied a large part of radio communications during the fight against Saskatchewan's largest forest fire to date.

The fire, which burned in the Nipawin area, during the middle of May, was fought by both Army and civilian forces and the local Amateurs set up two metre gear and HF equipment operating at the advance camps and the bases. At times the Amateur stations were pressed into service to order parts for the heavy equipment, food orders and even some traffic for the military.

Barry and the AREC Amateurs also were involved in another bad fire in Spiritwood when three grain elevators and other buildings fell victim to flames fanned by high winds. The Amateurs offered their H.F. links to EMO in Regina and Prince Albert and arrived at the scene with two VHF portable, H.F. gear and a CB set to keep touch with local CB units.

Just to top off all these emergency activities, on the way home from his firefighting activities, Barry came across a serious car accident and with the aid of his two metre gear was able to call an ambulance and medical aid to the scene!

Barry and the boys received a tribute from Premier Blakeney who wrote: "... they may feel proud of their contribution to the preservation of an important natural resource and, in some cases, of the homes and perhaps even the lives of their fellow citizens."

National CB organization

Many Amateurs have an interest in the welfare of the General Radio Service as witness the number who joined the Amateur ranks from the GRS but who still find the GRS worth keeping, especially if they travel a lot or are boating enthusiasts. The Canadian General Radio Service Alliance is an active organization with members from coast, dedicated to improving the use of the GRS channels and providing a focal point for individual CB operators and clubs to bring their needs and opinions to the attention of DOC.

CGRSA also publishes an excellent magazine "The Quarterly" featuring operating hints and up-to-date news of the GRS bands.

Convention Calendar

JULY 30 - 31 Okanagan International Hamfest, Gallagher Lake KOA Kampsite, Oliver, BC.

AUGUST 6 - 7 Montreal ARC Hamfest '77, at St. Lambert Hockey Arena. Flea market, CARF, RAQI and ARRL forums, tech talks. Info from Henry Kradeppohl, 1350 Rocheleau, St. Hubert, P.Q.

SEPTEMBER 3 - 5 Maritimes '77 "All Saints" Hamfest, sponsored by Amateurs from Saint John, St. Stephen, St. George and St. Andrew's...at St. Andrews. For details: VE1SY, John Fallon, Box 2, Saint John, N.B.

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Letters to the Editor

Swap Shop

Still think the greatest service you could give us is a "swap shop" list -- help cut costs!

Jim, VE3CJB

(We may try this in the future.. meantime, if clubs which conduct swap shop nets will let us know time and frequencies we will list those. Ed)

Boaters

In answer to VE2ADQ in "Letters to the Editor" May issue, I too am an ardent boater. The strange thing is, that I have known Marty for 3 years now, as an active member of the "Canadian Power Squadron", to which I also belong, (in a neighbor squadron), but never suspected that he was also a Ham! Those two hobbies go so well together. Here is a list of hams I know which also have a "Pleasure craft"; VE2KL, VE2AHA, VE2DVC, VE2BVB, all active on the air and in the water! Please let's continue this list.

I also want to congratulate you on your new format. I like the type of paper which is easy on the eyes, not like those glossy magazines which you have to hold at certain angles to reduce glare.

Best 73

Guy Savard, VE2BFG

Illegal Operating

When I read in The Canadian Amateur about an illegal operator being brought to task in BC, I was encouraged that DOC was working to keep our Amateur Radio Bands clean.

Again in the May issue of The Canadian Amateur, "DOC and RCMP Take Action in PQ". This is great, I thought, and then read the article "No charges were laid due to promises that each of the 20 people operating illegally promised to get their license."

I am dumb founded! When we have 20 people that have been investigated by a very busy, understaffed DOC and RCMP and then not charged. This makes me mad.

I received my Amateur "Certificate

of Proficiency in Radio" in 1971. It was not easy for me as I am sure it wasn't easy for many Amateurs.

Do I need to bother? I probably could operate illegally for some time before the DOC or RCMP caught me and then all I have to do is promise to try for my "Advance"!

Is this what "Hamming" is all about? I don't think so!

G.E. (Ted) Fountain, VE3FIC

Two Certificates

In reference to your recent article on page 3 May issue entitled "More that ever" which should have read "More than ever" you mentioned that Amateur Certificates are issued only once.

I wish to point out that you stand to be corrected as I myself have had 2 Amateur certificates issued to me. The first one was when I passed all the required tests and the second one was after I got married. They issued me with a new one with my married name on it and I believe it was a 'first' for the DOC in Halifax.

Barb Bareham VE3AHV

QSL Postage

Dear Sir:

A special postal rate to permit radio amateurs to send QSL cards is a fact of life in Argentina. Presumably the government there recognizes the contributions radio hams make in the field of international understanding.

It seems to me that the Canadian Government might usefully consider such a plan.

VE7DDF Fred Warner, Victoria

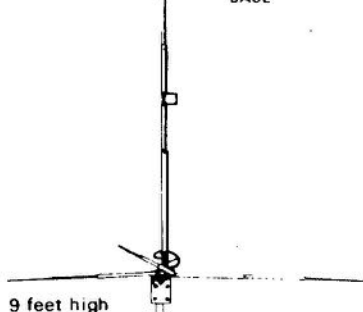
Anyone for darts?

On Saturday, April 16, Amateur Radio played an important part in an international dart tournament, between Victoria and San Diego.

Games were played in the Dockyard Recreational Hall. Scores were relayed via 2 meters to Base Amateur Radio summer 1977 - page seven

The Big Ringer

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9 feet high

AC - 137 / 160 - Colinear groundplane
Gain 6 dB
VSWR at resonance 1.2
Nominal impedance 50 ohms
Power rating 500 watt
Ant. fitting SO-239
Radials 1/2" OD
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Antenna weight 6 Lbs

LIST - \$46.50

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144-150 MHz



16C - 144 / 150 - CIRCULAR POLARIZED ANTENNA.

Gain* 10 dB
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Polarization circular
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Impedance 50 ohms
Power rating 150 watt
Boom 135" long, 1" OD, .040" wall
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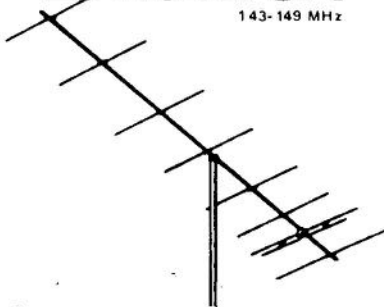
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The 2Meter 8A

143-149 MHz



8 A - 144 8 element 2 meter yagi

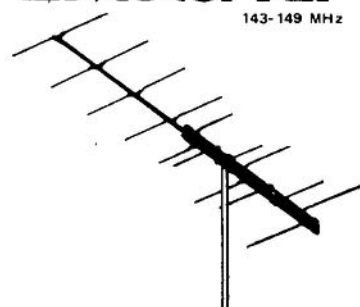
Gain* 10 dB
VSWR 1.3:1
Beamwidth 48°
F/B Ratio 22 dB
Impedance 50 ohms
Power rating 150 watt
Boom 135" long, 1" OD, .040" wall
Elements 3/8" OD, .035" wall
Antenna weight 10 Lbs

LIST - \$40.00

AMATEUR NET - \$35.95

The 2Meter 9LY

143-149 MHz



9 LY - 144 - 2 meter log-periodic yagi

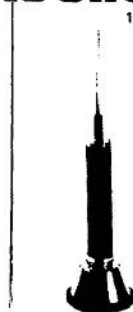
Gain* 10 dB
VSWR 1.3:1
Beamwidth 47°
F/B Ratio 25 dB
Impedance 50 ohms
Power rating 150 watt
Boom 135" long, 1" OD, .040" wall
Elements 3/8" OD, .035" wall
Antenna weight 10 Lbs

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137-180 MHz
5/8 WAVE



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Service Station, thence via 20 meters to the US Navy Base in San Diego. Due to technical difficulties down South, the tournament was not completed but a good thing has been started.

Principal participants in the communication in Victoria were Jim VE7DAU and Al VE7AXI.
From "Zero Beat" Victoria Short Wave Club

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"A Service for ALL Amateurs"

A new deal for CB ?

The recent symposium held in Toronto by DOC to discuss the problems facing the General Radio Service drew a good audience of CB club representatives and a number of Amateurs, among them Federation vice-president Fred Towner, VE2DNW, Tom Atkins, VE3CDM RSO president and ARRL Canadian vice-director Bill Loucks, VE3AR.

DOC plans to hold these symposium in each region and because of the common areas of interest such as interference and tower regulation, Amateur organizations should contact their Regional offices and ensure competent representation at these meetings.

Amateurs present at the Toronto meeting were able to contribute their technical knowledge and experience in interference problems. The question of the encroachment of municipalities on tower and antenna regulation was raised by VE2DNW but it was not discussed nor were any recommendations made on the subject as it was "not on the agenda".

The chief speaker at the two-day session on June 17 and 18 was Ross Milne, MP, Parliamentary Secretary to the Minister of Communications. The chief item of interest to Amateurs and CBers alike was his statement that prosecutions and license suspensions would probably be used against "the minority of deliberate and habitual offenders".

The message to him from the floor was loud and clear. Enforcement must be carried out to make the GRS channels fully useful.

A number of measures to clean up the situation were put forward by Mr. Milne. Inspection of station installations and a program of education in how to properly install GRS stations was proposed. The ban or control of linear sales and use was also mentioned (the Depart-

ment's intent in this matter has already gone to public notice and your Federation filed comments on this matter this past spring).

Again, of interest to Amateurs was the statement that DOC is "increasing its efforts to persuade manufacturers and importers" of home entertainment equipment to "voluntarily incorporate simple, effective and inexpensive design improvements to render their products less susceptible to interference from CB and other sources".

Main points of interest to Amateurs to come out of the reports of the working groups which were set up were; Some sort of educational courses should be set up by DOC and an operator's certificate should be devised;

Enforcement of the Radio Act and Regulations must be carried out. The present requirement for the Minister's approval for proceeding with prosecutions should be abolished; and

The problem of susceptibility of home entertainment equipment to radio interference must be pursued by the DOC; (Latest figures show more than 500,000 "CB" sets (licensed) in Canada with 150,000 in Ontario alone.)

Meet the Minister

The interesting and warm personality of the present head of DOC, Mrs. Jeanne Sauvé, is a far cry from what one might imagine a Cabinet Minister to be.

A charming woman in her mid-fifties, Mme. Sauvé has long been active in public affairs movements both on the national and international scene. After graduation from Ottawa University, she continued to study in Paris and London, later taking a position with a United Nations organization in Paris.

Cont'd pg. 13



- 100% solid state SSB/CW Transceiver
- Full coverage of 10 – 160 meter bands
- 350 watts P.E.P. or CW input
- Digital Dial Frequency Readout (optional)
- Plug-in auxiliary VFO or crystal oscillator (optional)



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Atlas 350-XL (less options)	\$1250.	Model 350-PS Matching AC Supply	\$275.
Model DD6-XL Digital Dial Readout	\$275.	Mobile Mounting Bracket	\$90.
Model 305 Plug-in Auxiliary VFO	\$215.		
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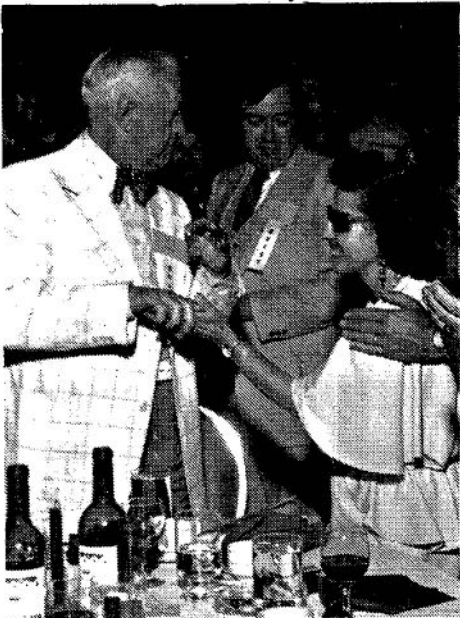
CARF president John Henry VE2DNM demonstrates OSCAR satellite communications for the convention.

Photos courtesy VE3BMG Gord Steane and Convention Committee.

Kay Clark, Canada's first blind and deaf Amateur was presented with her licence by Dave Lyon, DOC Regional Director, at the banquet. 

ARRL TORONTO CONVENTION

CARF Directors Stella Broughton VE6 VF, Fred Robinson VE3GCP and Martha Pankratz VE5YY. All CARF directors and executive attended the convention. 



Many hams say...

The only thing better
than the Drake 4-Line
is the
Drake C-Line

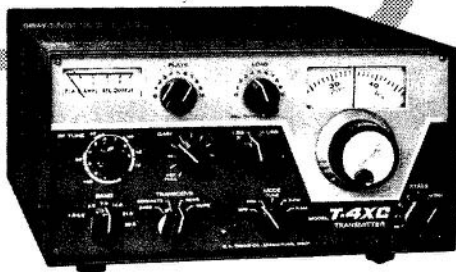
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R-4C FEATURES:

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T-4XC FEATURES:

- Plug-in relay
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DOC Minister

Continued from Page 9

Married in 1948 to a former Cabinet Minister, Maurice Sauvé, who is now an executive of a large pulp and paper corporation, she returned to Canada. For many years, until elected in a Montreal riding in 1972, Mrs. Sauvé was a journalist and broadcaster for CBC, CTV, and appeared on CBS and NBC, mainly in public affairs programs.

Her interest in the Canadian Radio-Television Commission, which also reports to her, is a well-informed one as she was, until her election, a director of both a company that owns cable TV and radio stations and a director of CKAC in Montreal.

Since her election in 1972, Mme. Sauvé has been successively Minister of State in charge of Science and Technology, Minister of Environment, and has held the Communications portfolio since December 5, 1975.

The Amateur Experimenter /

FEEDING THE DIPOLE ANTENNA --- REVISITED!!!

Your publication has joined the ranks of those big-time Amateur technical magazines which own up to errors after irate readers find flaws in diagrams and stories and point them out in no uncertain manner; so --- thanks to all those who wrote to us and even bent our ear on the phone concerning the article appearing under "The Amateur Experimenter" on page 23 of the May issue, entitled "Feeding the Dipole Antenna" by VE7AFJ. The letters ranged all the way from the hilarious to the outraged, with comments running from the suggestion that it was a late April fool joke, to profusely illustrated engineering advice on the way it really is with dipole feeds! The letters have been bundled off to the author for his edification and hopefully, in a later issue, for his comment.

Editor, TCA!

"Article by VE7AFJ makes no sense. He worries about the extra capacity across the feed point; well, what about the extra inductance of the feed line? Suggest Technical Editor reads all articles before printing. (This one he missed ED.) This is just the kind of material to set back modern theory. It is not very simple to wind a balun for proper operation and balance etc. Because most amateurs can't check performance re core saturation tec. they think if it works it must be ok. We are all great spec. sheet readers but few of us have either the technical ability or equipment to

evaluate modern devices. Articles by VE7AFJ don't better it!...

R.R. Fransen VE6RF

Editor, TCA:

I like seeing technical articles in TCA but I was quite disappointed in the two that I read in the May issue...(re) the article "Feeding the Dipole Antenna" while I agree that there are benefits to be derived from the use of a balun between coaxial transmission line and a dipole, it appears that the author discovered this fact by accident, came up with an incorrect explanation, documented it, sent it to you, and you published it. The author is to be commended for his energy and interest in that he provided an article of interest to other amateurs, but you did both the author and your readers a disservice in publishing it: the author has been held up to public ridicule for the glaring errors in the article, and the readers who thought they were boning up on esoteric transmission/antenna theory in TCA, have been led down the garden path. I would like to suggest in future that when you find such an article submitted, you return it tactfully to the author with an explanation and encouragement to try again...

VE7AFJ's observations based on fact:

1. 70 ohm coax is not necessarily the best thing to feed a dipole with;
2. antennas have both electrical and mechanical resonances;
- 2a. 3200 pf added in parallel with a resonant circuit will change its frequency;
3. coax-fed dipole antennas do work;

summer 1977 - page 13

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Experimenter

4. attempting to grid-dip a coax-fed dipole can give unexpected results;
5. the addition of a balun can make the grid-dip process simpler;
6. water inside coax cable is bad news;
7. directly coax-fed dipoles are not especially directive; and
8. a balun-fed dipole is more directive than one fed directly by coax.

Comments (keyed numerically to the above):

1. True. Even at resonance, most practical dipoles (amateur 80-40 m in particular) exhibit a resistance between zero and 60 ohms which means you will get a higher vswr using 70 ohm line than you would using 50 ohm line, and if the dipole is directly coax-fed, unless the antenna is perfectly symmetrical, operated at resonance and having its radiation resistance equal to its feedline characteristic impedance, and the feedline coming away from the feedpoint at 90 degrees for a considerable distance, there will be current on the outside of the coax outer conductor from a combination of that picked up from the antenna (dipole) and power reflected from the antenna because it is not a perfect match for the line. In other words, the coax now becomes part of the antenna and also radiates a signal. This can cause the antenna (comprising both the intended radiator, the dipole, and the incidental radiator, the feedline) to exhibit an swr different from what the idealized theory will predict. The height of an amateur 80m dipole is usually less than 0.2 wavelength (about 52 feet) especially when you take into account the presence of trees, houses, other antennas and supports, and metal fences.

2. True. I think we all agree what electrical resonance is. Mechanical resonance determines the frequency at which the antenna moves when excited mechanically, such as by the wind. This motion can affect the electrical resonance as the antenna moves with respect to objects in its near field.

2a. True, but in the example given, the antenna does not see a 3200 pf capacitor; while the coax may have a capacitance of 32 pf per foot, it also has an inductance per foot which must be taken into account which means that 100 feet of coax

look like 3200 pf, only at DC, because as soon as you attempt to change the voltage on the line, at any rate, all those little inductors corresponding to the 32 pf capacitance per foot will develop a voltage drop, one after another, and the net effect is not a 3200 pf capacitor.

3. True. QED. Otherwise VE7AFJ would have had no reason to write the article.

4. True. Especially if you misinterpret the results. It also depends on how you go about it: coupling to the antenna itself without the feedline, or from the transmitter end of the feedline (with the antenna connected) are two methods. The latter method gives a broad shallow dip at resonance (very hard to find unless you know where you should be looking), and a myriad of comparatively sharp dips at frequencies determined by the length and velocity factor of the transmission line.

5. True. Use of the balun should eliminate the currents flowing on the outside of the coax shield and therefore some of the "resonance" indications will disappear, and the resonant point of the dipole will depend on its length and environment, unmodified by the transmission line length and environment.

6. True, but not applicable to the argument whether one should use a balun or not. (Extraneous information which may just confuse the reader.)

7. True. The classical dipole in free space has nulls off its ends; a "real-life" horizontal dipole has some vertically polarized response off its ends due to ground effects, (20 to 30 db down), and the coax of the directly fed dipole will radiate sufficient energy to give a response in all directions, of a magnitude and polarization dependent on the installation, and practically impossible to predict.

8. True. Use of the balun will eliminate feedline radiation (assuming that reasonable care was taken in siting the dipole, and in routing the feedline) so that the antenna pattern will now be that of the classical doughnut plus ground effects.

To summarize, the author took a set of true statements, statements based on measurements, (and data) and then proceeded to misinterpret them horribly,

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A convenient "Straight key" is built-in for QRS sending or tune-up. Also an internal side-tone and 115VAC/12VDC operation is provided.

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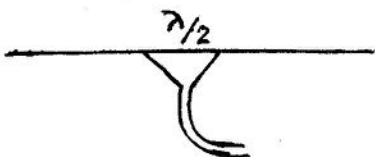
creating a Ptolemaic model of the electrical universe, or worse. While I cannot say that my explanations are 100% correct, I at least based them on electrical engineering theory and data.

VE3BTY Dave Robinson

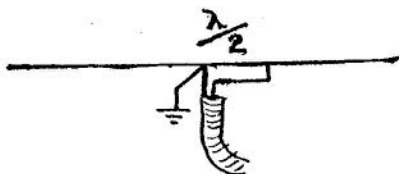
How come you missed the April issue with the spoof article by VE7AFJ? (Feeding the Dipole Antenna?) You should have put something at the end of it to warn your readers that it is a leg-pull.

At least it makes people think, and undoubtedly will give rise to some letters. (It sure did. Ed) Here are a few questions:

If a 3200 pF capacitor across the gap at the centre of a dipole stops it working efficiently, then how come this antenna works:



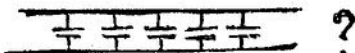
(a short circuit has even less reactance than a 3200 pF capacitor) and this one:



A balun has to have some inductance doesn't it? Then how come the antenna stays resonant when you do this to it?:



What happens to that distributed capacitance on the coax when you add in the other fact of life, distributed inductance? Don't they tend to cancel out?



Why doesn't that awful capacitance wreck coaxial baluns? They seem to work.

It is true that a dipole fed directly with coaxial tends to have its directivity slewed off a bit, and has the nulls filled in somewhat. But some people want omnidirectivity (and perhaps it is worthwhile to remind everyone that dipoles are directive off the ends for vertically polarized emission). But we have to be careful when discussing efficiency. A directly fed antenna will probably radiate a bit more power than one fed by a balun. It depends a lot on the type of balun. A transformer balun (as opposed to a bifilar transmission line type) will have some losses in the core, and will not have such a wide bandwidth. There is almost no practical limit to the bandwidth of directly connected coax. A few turns of cable tied to form a coaxial choke just below the antenna terminals will suppress the disruptive surface currents quite well, with no possibility of loss of power. Feel a balun after it has been passing a kW for a few minutes; if it is warm, some of the power didn't jump off into space.

A serious question for AFJ: How do you determine how tightly to stretch the antenna wire to maintain mechanical resonance? There are no charts in the handbooks to relate tension, material and length to mechanical resonance.

When all is said and done, the only thing that really matters in a dipole is to use very thin wire. It then has high resistance and opposes the passage of rf current, so it jumps off; which is what you want it to do.

(Name withheld by request)

Here is Frank VE7AFJ getting his own licks in at the author of the June article, 'All Band Trapless Antenna'...

A B.C. Amateur has pointed out that the CPO Monitor published in the Jan. 77 issue of TCA just won't work. When I checked the schematic, the reson became apparent. The polarities of the battery are backwards.

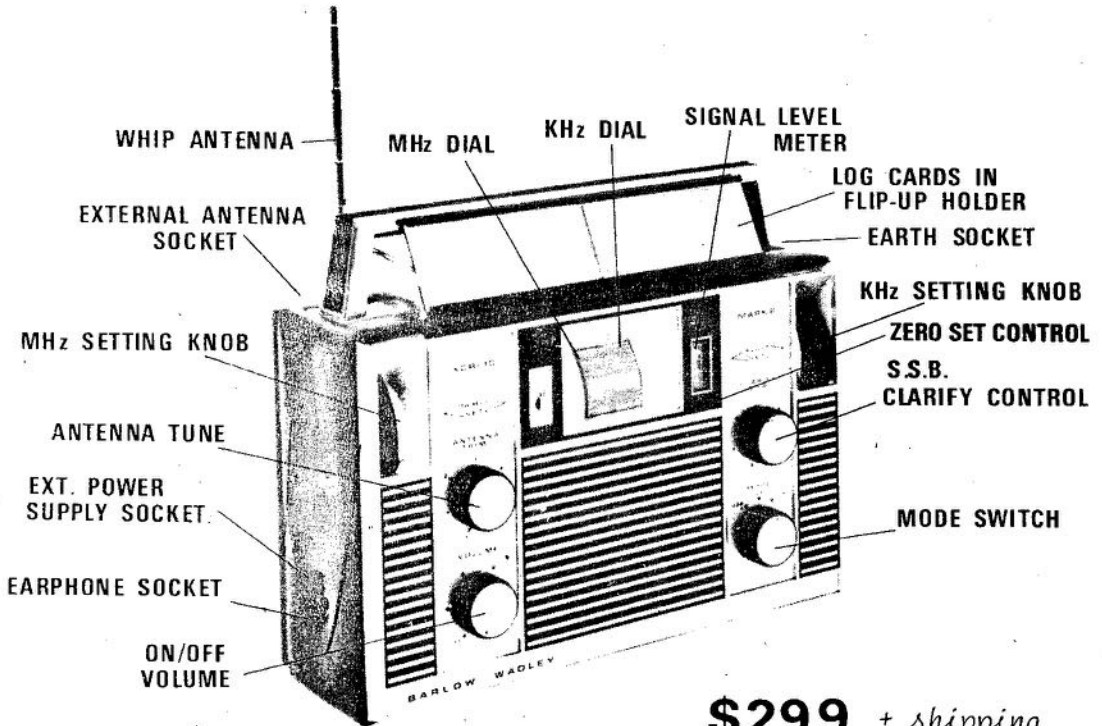
The article 'All Band Trapless Vertical Antenna' in the June TCA has problems. In the first place, it is hardly an 'efficient' antenna. The author, neglected summer 1977 - page 17

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XCR 30 MARK 2

The XCR 30 Mark 2 is probably the most deceptive looking radio around; a regular wolf in sheep's clothing. It is really an honourable communications receiver covering 500 kHz to 30 MHz continuously, using the Wadley triple mix design developed by Racal and used in the RA 219 receivers. This gives superb stability and dial accuracy; there are in fact two dials — one sets the MHz, the other kHz, using a phase locked loop frequency synthesizer. Other features include a BFO for receiving CW and SSB, $2\mu\text{V}$ sensitivity, ceramic IF filters, S meter, external antenna earphone, and power jacks, and steel case with die cast aluminum front panel. At \$299.00, it's good value for a go-anywhere, listen to anything radio. *WSI Sales Co., 18 Sheldon Ave. N., Kitchener, Ontario N2H 3M2.*

Apply these shipping rates unless directed otherwise!!

NWT/YT	20.00
British Columbia	8.00
Alberta	8.00
Saskatchewan	7.00
Manitoba	7.00
Ontario	6.00
Quebec	6.00
Newfoundland	10.00
Nova Scotia	8.00
New Brunswick	8.00
Prince Edward Island	8.00

Ontario residents -add 7% OST

**A WOLF
IN SHEEP'S
CLOTHING**

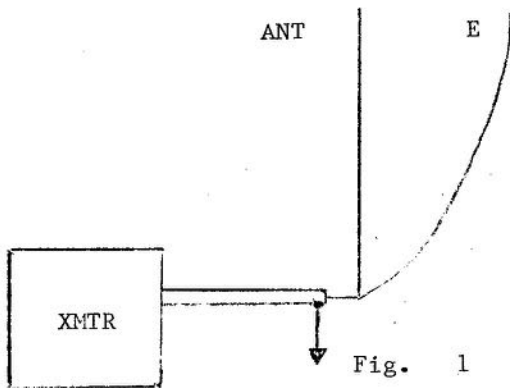


Fig. 1

to point out that, depending on the band and power run, there can be between 10,000 and 50,000 volts of RF present at the base of the radiating antenna. This presents very real problems in terms of insulation at the base of the radiating antenna. Fig. 1 is a voltage representation of a quarter-wave radiator showing a very high voltage at the tip of the antenna. In Fig. 2 the coil takes the place of a good part of the radiator and the coaxial cable 'repeats' the impedance at the base of the radiating antenna. As can be seen by the voltage diagram, the RF voltage at the base is very high...

I found the voltage to be so high in an

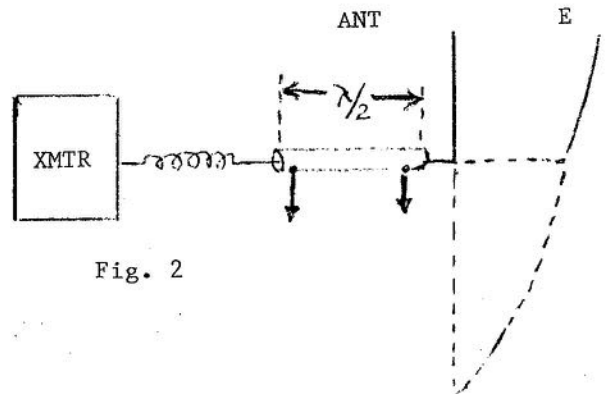


Fig. 2

installation like this that a very special insulating base had to be manufactured to withstand the tremendous RF voltages at the base of the radiating antenna.

The author has a very good point but the development of the antenna system is poor. The reason that more of this approach has not been heard of is the RF voltage problem. It should be noted that the coaxial cable will also be subjected to the same order of RF voltages and problems. Incidentally, I found that the best way to tune an antenna of this general design is by field strength and not VSWR.

VE7AFJ

Highlights of CARF Annual Meeting

Your Federation's annual General Meeting and the Board of Directors' meeting took place in Ottawa on May 27, 28, and 29. The election of officers for 1977-78 resulted in a new president, vice-president and secretary.

It had been found that the one-year period of office for directors did not really permit directors to get going on the job before it was time for new nominations so By-law Two, Section 5, Article 3 was amended to allow a two-year term for directors. Officers and committee chairmen, as approved by the Board, will still hold annual appointments.

President is John M. Henry, VE2DNM of Aylmer, Quebec. John is an engineer with Telesat Canada and will have the opportunity to meet with clubs and members as he travels a good deal in his job of maintaining the ground stations. He is, quite naturally, an Oscar fan.

Vice-president is Fred Towner, VE2

DNW, also of Aylmer, Quebec. Fred, after a service career beginning in 1954 in what used to be the Royal Canadian Corps of Signals, is now in a management position in the data processing field. Fred has had various calls and readers who worked VE3RCS, VE8RCS, VE8TU, VE7MG and VE3CDT might remember him under those calls.

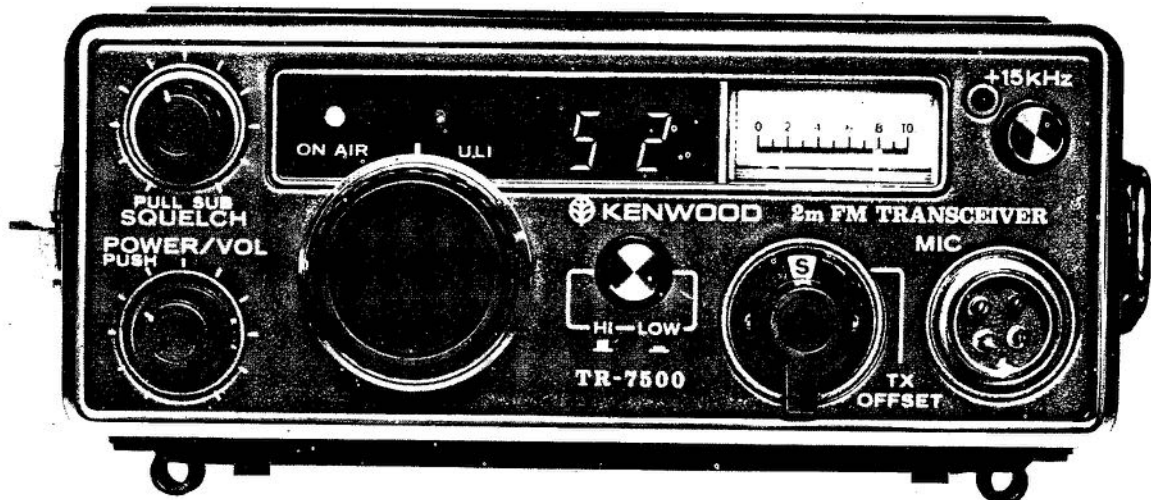
VE3FVO, Joan Powell, who is active and well-known in Amateur affairs in the Toronto area is Secretary. Joan is a business woman who is in the public relations field.

Treasurer is Bernie Burdsall VE3NB of Kingston, who is taking on another term at this vital job. Art Blick, VE3AHU after many years as president, retired from that position to devote his time to the General Manager job. Legal Counsel is VE3CT, Charlie Grove, of Ottawa.

In his report, Art noted that administrative work now involved in running summer 1977 - page 19

ORDER NOW

TR-7500



There are a number of good 2 meter FM transceivers on the market. You may already own one. But, even if you do, we suggest that you put your radio to this test. And, if you're thinking of buying one, this test should be a helpful guide.

INTRODUCTORY OFFER

\$399

- Is it PLL synthesized?
- Does it have 100 channels (88 pre-programmed)?
- Does it have 12 extra diode programmable channels?
- Does it have single knob channel selection?
- Does it have a LED digital frequency display?
- Does it have a powered tone pad connection?
- Does the receiver have helical resonators?

NO YES

<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
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<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

**AVAILABLE
AUGUST
1977**

If your answer is NO to any of these, the TR-7500 is the radio that you should own. And, in addition to these important features, you get proven Kenwood quality, value and service.



Specifications

NEW!

- Semiconductors: Transistors..... 41
- FETs..... 8
- ICs..... 7
- Diodes..... 35
- Frequency Range: 146.01 to 147.99 MHz
- Mode: FM
- No. of Channels: 100
- Operating Temperature: -20 to +50 degrees C
- Power Voltage: 11.5 to 16.0V DC (13.8V DC nominal)

- Grounding Polarity: Negative ground
- Antenna Impedance: 50 Ohms
- Current drain: Less than 0.5A in receive with no input signal
- Less than 3A in transmit (HI) Less than 1.5A in transmit (LOW) (at 13.8V DC)
- Dimensions: 172 mm (6-3/4") wide
- 250 mm (9-7/8") deep
- 75 mm (2-15/16") high
- Weight: Approximately 2.2 kg (4.8 lbs.)
- TRANSMIT SECTION**
- RF Output Power: High: 10 Watts
- Low: 1 Watt (approximately)
- Modulation: Variable reactance frequency shift
- Frequency Deviation: ± 5 kHz
- Spurious Radiation: Better than -60dB

- Tone Pad Input Impedance: 600 Ohms
- Microphone: Dynamic microphone with PTT switch, 500 Ohms
- RECEIVE SECTION**
- Receive System: Double conversion superheterodyne
- Intermediate Frequency: 1st IF: 10.7 MHz
- 2nd IF: 455 kHz
- Sensitivity: Better than 0.4 uV for 20dB quieting
- Better than 1 uV for 30dB S/N
- Squelch Sensitivity: Better than 0.25 uV
- Selectivity: 12kHz at -6dB down
- 40 kHz at -70dB down
- Image Rejection: Better than -70dB
- Spurious Interference: Better than -60dB
- Audio Output: More than 1.5 watts across 8 Ohms load
- 10% distortion
- Intermodulation: Better than 56dB

FOR THESE AND OTHER ITEMS IN OUR LATEST CATALOGUE, WRITE TO:-

GLENWOOD TRADING COMPANY LTD. 278 East 1st St. North Vancouver, B.C. V7L 7B5

Annual meeting

your Federation has necessitated the formation of an administration office in Kingston. This office is staffed by KO-TARA, the Kingston Old Timers' Radio Association, with a full complement of modern office machinery and two complete radio stations, VE3VCA, "The Voice of The Canadian Amateurs" and VE3KAR, the VHF station of the Kingston ARC. (Visitors to Kingston can contact Art or Bernie for a "guided tour" of the set-up.)

Life memberships and a special five-year reduced fee membership were okayed by the Board. (See elsewhere in this issue for details).

The Chairman of the Communications Committee, VE7AFJ, Frank Merritt, reported that the RTTY Transcan net may be operational on 20 metres by September. In response to a CARF request, DOC will permit RTTY on 160 upon special endorsement of your station license.

Croft Taylor, VE3OR, Ontario Director, is preparing a slide show featuring RTTY equipment for presentation to clubs across Canada. He also noted that the availability of five-level RTTY gear to Amateurs is being affected by the fact that members of the Canadian Telecommunications Carriers Association (CN, CP, and telephone companies) are assisting the Canadian Hearing Society in equipping deaf persons with these machines which are hooked up through an interface equipment to their telephone sets. Amateurs should try for the eight-level equipment with converters.

The meeting was told that VE two-letter calls in Ontario had run out and the Radio Society of Ontario has asked CARF to investigate with DOC the possibility of a new prefix other than VE being available for Ontario.

A motion was passed to have CARF ask DOC to permit A3 emission (phone) from 7050 to 7100 kHz is of interest to DX operations on forty metres as this would give Canadians access to the international phone portion of that band.

The publications committee reported that the Advanced Study Guide will be ready by August 15 and that the Communications Handbook will be published

next summer. "The Canadian Amateur" circulation is growing to the extent that it is now being printed on rotary presses, which accounts for the new type of paper. (Press run this issue is 4,200 copies).

Your Federation is going to sponsor an annual on-the-air operating activity (a contest) which will be looked after by the DX Contest and Awards Committee, chaired by Peter Driessen, VE7BBQ.

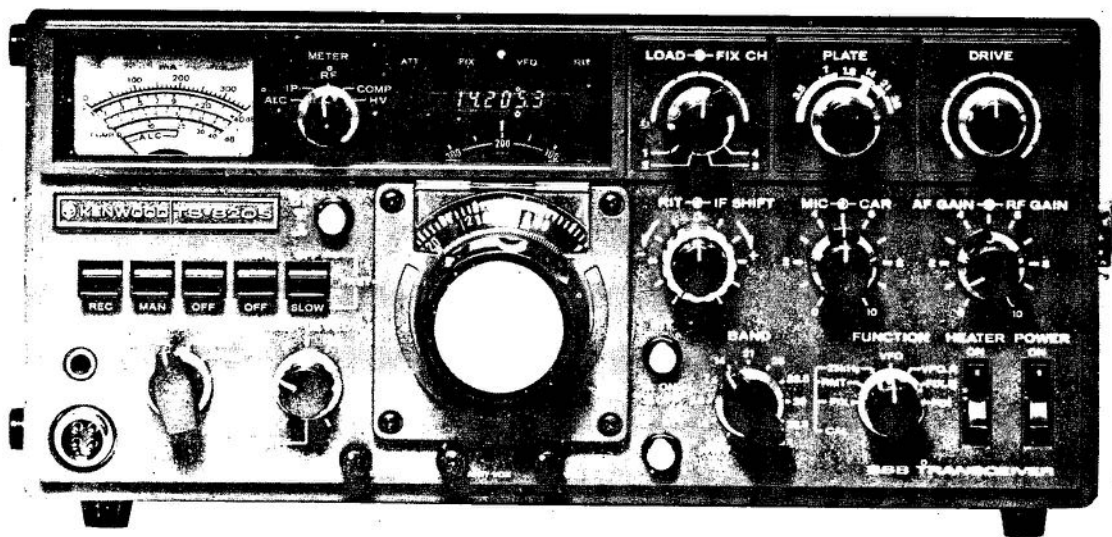
Acting on complaints from members that the new DOC examinations contain some references to electronic tubes in questions which should have been geared to solid state electronics, the Board directed the administration to take up this matter with DOC.

The meeting broke up into working groups for a time and one of these considered the state and future of CARF/ARRL relations, with the Vice-director of the ARRL Canadian Division, Bill Loucks, VE3AR and Holland Shepherd, VE3DV, a long-time ARRL Canadian official present. The outcome of the talks was not as optimistic as had been hoped by the Board but CARF co-operation and liaison will continue with officials of the Canadian Division, especially in the area of legal problems involving enforcement and towers and in the WARC '79 frequency planning.

National Amateur radio organizations such as those catering to operating specialties or groups of persons (e.g., teletype, DX, ladies' groups, old-timers' associations, etc.) will now be eligible for Group Membership rather than Affiliate Membership (for the same fee). This will broaden the democratic base of your Federation because Group Members (formerly restricted to provincial societies) can nominate and vote for three out of the nine directorships.

Standing committee appointments set by the Board are: QSL Services - Jean Evans, VE3DGG, Toronto; Membership - Herb Greenidge, VE3DWA, Kingston; VHF Advisory - Cary Honeywell, VE3ARS, Ottawa; Communications and DOC Liaison and Regulations - Frank Merritt, VE7AFJ, Parksville; Technical - Cary Honeywell, VE7ARS, Ottawa; Finance - Ralph Hindle, VE2BMH, Aylmer, Croft Taylor, VE3OR, Ottawa, and Bernie

TS-820S



We told you that the TS-820 would be the best. In little more than a year our promise has become a fact. Now, in response to hundreds of requests from amateurs, Kenwood offers the TS-820S... the same superb transceiver, but with the digital readout factory installed. The worldwide demand for the TS-820 far exceeded our initial production plans. However, production capacity has been substantially increased and our objective is to make the TS-820S more readily available to you. As an owner of this beautiful rig, you will have at your fingertips the combination of controls and features that even under the toughest operating conditions make the *TS-820S the Pacesetter that it is.*

Features

Following are a few of the TS-820S' many exciting features

SPEECH PROCESSOR • An RF circuit provides quick time constant

compression using a true RF compressor as opposed to an AF clipper. Amount of compression is adjustable to the desired level by a convenient front panel control.

IF SHIFT • The IF SHIFT control varies the IF passband without changing the receive frequency. Enables the operator to eliminate unwanted signals by moving them out of the passband of the receiver. This feature alone makes the TS-820S a pacesetter.



PLL • The TS-820S employs the latest phase lock loop circuitry. The single conversion receiver section performance offers superb protection against unwanted cross-modulation. And now, PLL allows the frequency to remain the same when switching sidebands (USB, LSB, CW) and eliminates having to recalibrate each time.

DIGITAL READOUT • The digital counter display is employed as an integral part of the VFO readout system. Counter mixes the carrier, VFO, and first heterodyne frequencies to give exact frequency. Figures the frequency down to 10 Hz and digital display reads out to

100 Hz. Both receive and transmit frequencies are displayed in easy to read, Kenwood Blue digits.

Specifications

FREQUENCY RANGE 1.8-20.7 MHz (160 - 10 meters)
MODES: USB, LSB, CW, FSK
INPUT POWER: 200W PEP on SSB
 160 W DC on CW
 100 W DC on FSK
ANTENNA IMPEDANCE 50-75 ohms, unbalanced
CARRIER SUPPRESSION: Better than -40 dB
SIDEBAND SUPPRESSION: Better than -50 dB
SPIRITIOUS RADIATION: Greater than -60 dB (harmonics more than -40 dB)
RECEIVER SENSITIVITY: Better than 0.25uV

RECEIVER SELECTIVITY
 SSB 2.4 kHz (-6 dB)
 4.4 kHz (-60 dB)
 CW* 0.5 kHz (-6 dB)
 1.8 kHz (-60 dB)

(*with optional CW filter installed)
IMAGE RATIO 160-15 meters: Better than 60 dB
 10 meters: Better than 50 dB
IF REJECTION: Better than 80 dB
POWER REQUIREMENTS: 120/220 VAC, 50/60 Hz, 13.8 VDC (with optional DS-1A DC-DC converter)
POWER CONSUMPTION: Transmit 280 Watts
 Receive 26 Watts (heaters off)
DIMENSIONS: 13-1/8" W x 5" H x 13-3/16" D
WEIGHT: 35.2 lbs (16 kg)

VFO-820
 Function switch provides any combination of transmit/receive/transceiver with the TS-820S. Both are equipped with VFO indicators showing which VFO is in use.

CW FILTER #55
 DC-DC CONVR. #59

SP-520
 Although the TS-820S has a built-in speaker, the addition of the SP-520 provides improved tonal quality. A perfect match in both design and performance.

TV-502
 The TV-502 converter puts you on 2-meters the easy way. Operates in the 144.0-145.7 MHz frequency range with a 145.0-146.0 MHz option. Completely compatible with the TS-820S, the TS-520S and most any HF transceiver.

TV-506
 Similar to the TV-502 except that it opens up the 6-meter band (50.0-54.0 MHz) to your HF rig. *The TS-820S and DG-1 are still available separately.

FOR THESE AND OTHER ITEMS IN OUR LATEST CATALOGUE, WRITE TO:-

GLENWOOD TRADING COMPANY LTD. 278 East 1st St. North Vancouver, B.C. V7L 7B5

Burdsall VE3NB, Kingston; Public Relations - Fred Robinson, VE3GCP, Hamilton; DX Contests & Awards - Peter Driessen, VE7BBQ, Vancouver; "Canadian Amateur" Production - Doug Burrill, VE3CDC, Ottawa.

The WARC '79 Working Group chairman is Bud Punchard VE3UD. Doug Burrill was appointed Special Assistant to the President and will continue as Editor of "The Canadian Amateur".

— WARC '79 Up-date /

CARF comments to DOC —

The public meeting held by DOC in early April to review its February first draft for a Canadian position at the Geneva 1979 frequency allocation conference (WARC '79) resulted in a request for written comments from interested users.

Your Federation, represented by its WARC '79 Working Group chairman and member Art Stark discussed the Amateur position in detail with the DOC CIC (Canadian Interdepartmental Committee) and have put the results in a brief submitted to DOC/CIC on June 6.

Following is the text of the brief:

The Canadian Amateur Radio Federation is pleased to present further comment on the First Draft Proposals by Canada for WARC '79 dated February 28, 1977. These comments result in part from and confirm discussions with representatives of the Canadian Interdepartmental Committee for WARC 1979 at the public meeting in Ottawa, April 4 and 5, 1977, and further discussions with Amateurs across Canada.

The attached table briefly outlines the CARF position on the proposed Amateur Bands. While most of these proposals are acceptable to the CARF members, it is hoped that the additional comment herein will be carefully considered by the CIC.

160-200 KHz

CARF recognizes that this band is used for power line carrier applications and that interference from other services must be minimized. Nevertheless it is strongly recommended that a minimum allocation of 10 KHz in this band be allocated for Amateur use. This is one part of the spectrum which has never been available to the Amateur Experimental Service. Amateurs believe they can apply modern techniques to achieve

worthwhile communication in this part of the spectrum. CARF would be quite agreeable to power and geographical limitations with licence endorsement. If 10 KHz in this band cannot be allocated, is there any other 10 KHz portion available below 300 KHz?

3800-4000 KHz

The proposal to reallocate this part of the present 3500-4000 KHz Amateur Band has been received with shock. At present, this band and the 14 MHz and 144 MHz bands are the most important to the Amateur Experimental Service. Reduction of the width of this band, together with the projected increase in total number of Amateur licenses will cause intolerable interference which will nullify and eliminate many beneficial Amateur Activities. Because of propagation characteristics, these activities cannot readily be transferred to other bands. As stated in the CARF Brief of October 15, 1976, the operation of more than 50 Amateur nets in Eastern Canada alone will be severely curtailed. Although they operate mainly between 3725 and 3800 KHz, the crowding due to total band reduction will cause intolerable interference.

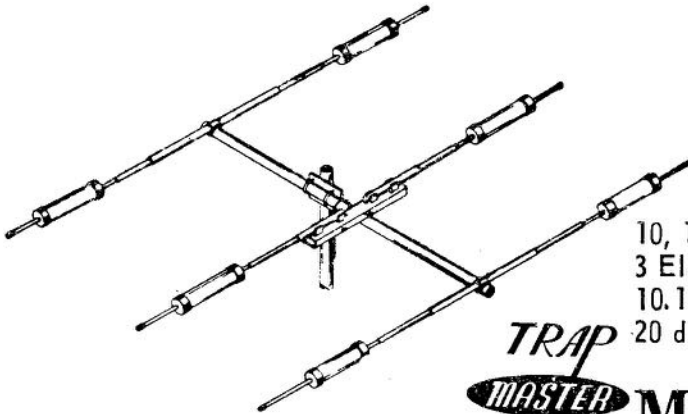
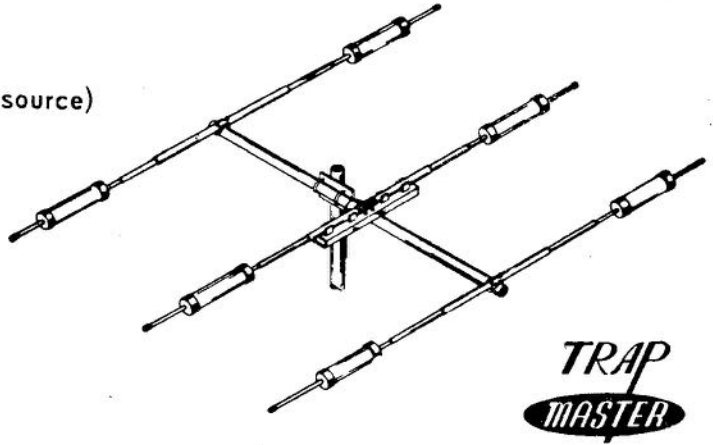
It is proposed to allocate 3900-4000 KHz to Broadcasting in Region 2. The FCC do not appear to be supporting such a proposal and therefore, the main interest for broadcasting will be in Canada. Presumably this will be used for the CBC short wave service to Northern Canada. It is difficult to conceive the need for more than two or three stations for this service and, therefore, a 100 KHz band for Canada alone for this purpose would be very wasteful indeed. Furthermore, due to propagation characteristics, this frequency could only be useful during night time hours.

Mosley Electronics Inc.

Select Quality Multi-Band Beams

10, 15 & 20 Meter
3 Element Beam
10.1 db. Forward Gain (over isotropic source)
20 db. Front-to-back Ratio

Mosley CL-33



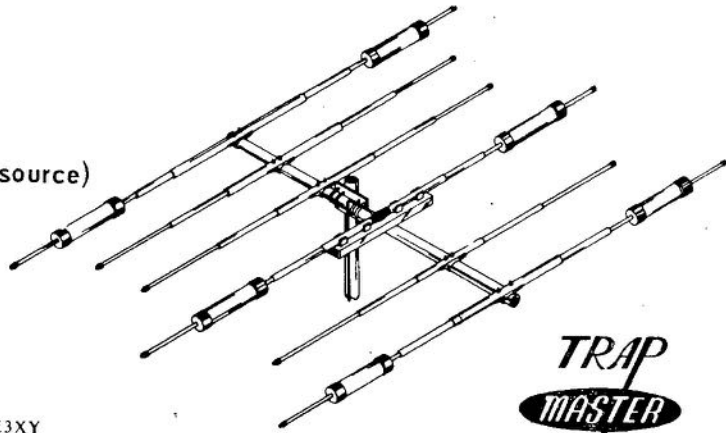
10, 15 & 20 Meter
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20 db. Front-to-back Ratio

Mosley TA-33

Mosley TA-33Jr.

10, 15 & 20 Meter
6 Element Beam
10.1 db. Forward Gain (over isotropic source)
20 db. Front-to-back Ratio

Mosley CL-36



Write for Catalogue Sheets c/c J. H. Williams VE3XY

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Head Office C.M. Peterson Co. Ltd.

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Toronto Amateur Dept.: 47A Colville Road Toronto 15

summer 1977 - page 24

CARF strongly recommends that CIC reconsider the first draft proposal and reinstate the present 3500-4000 KHz Amateur band shared. If this cannot be done, then reconsider on the basis that only an additional 75 KHz be provided for fixed and mobile services and 50 KHz for broadcasting as follows:

3500-3875 KHz AMATEUR Reg 1 2 3
 3875-3950 KHz FIXED Reg 1 2 3
 Mobile
 (except Aero) Reg 2
 3950-4000 KHz BROAD-
 CASTING Reg 1 2 3

6900-7100 KHz

Although the allocation of this band will require modification of hundreds of thousands of Amateur equipments in Region 2, including recalibration of dials it would probably be preferable to the present chaotic 7200-7300 KHz shared allocation, especially at night. The primary Amateur band 7000-7100 KHz is presently being used by illegal intruders. If this band is to be reduced to 6900-7100 KHz, what assurance can be given that it will be kept clear of intruders and stations presently operating between 6900-7100 KHz will be moved? Otherwise, this new allocation will be of minimum value to Amateurs.

144-146 MHz

CIC have asked if Amateurs could

be moved to a higher band, say by 1990. There are very serious objections to vacating this band, unless technological developments in the next 15 years produce radical increase in advantages to moving to a much higher frequency band (low-cost cellular systems, for example). Such a shift would require replacement of more than 3,000 repeaters in operation in North America now, and probably 5,000 or more by 1990, together with more than 200,000 transmitter-receivers. The disposal of this equipment and perhaps its illegal use would constitute a serious interference and enforcement problem.

48-50 GHz - Amateur

Other organizations have proposed reduction of this proposed allocation to 1 GHz between 50-51 GHz. CARF requests a 2 GHz band width in this part of the spectrum, preferably 48-50 GHz to preserve harmonic relationship, but would accept 50-52 GHz if necessary.

71-76 GHz - Amateur

Proposals to reduce this to 1 GHz bandwidth are not acceptable because bandwidth should increase with frequency. Any 5 GHz band in this part of the spectrum would be acceptable.

160-165 GHz - Amateur or any 5 GHz band in this part of the spectrum.

Frequency Allocations for the Amateur Experimental Service

CARF Comments on First Draft Proposals by Canada for WARC '79.

Dated February 28, 1977

These comments result from and confirm discussion with representatives of the Canadian Interdepartmental Committee for WARC '79 at the public meeting held in Ottawa, April 4 and 5 1977, at the Government Conference Centre.

J.C.R. Punchard
 Chairman, CARF WARC '79
 Working Group - April 7/77

BAND	CIC PROPOSALS WITH CARF COMMENTS	CARF POSITION
0-10 KHz	It is understood that CIC is reluctant to propose allocation of this band because of potential interference and special interest of other groups.	Accepted

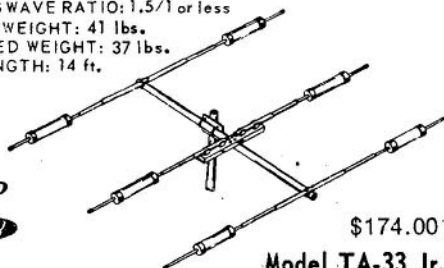
MOSLEY ANTENNAS

The Classic 33 10, 15, and 20 meters

Model TA-33 for 10, 15, and 20 meters \$238

The Mosley TA-33 three element beam provides outstanding 10, 15, and 20 meter performance. Exceptionally broadband - gives excellent results over full Ham bandwidth. Exclusive Mosley trap design offers resonant frequency stability under all weather conditions. Element center sections are of double thickness aluminum to reduce sag. Boom requires no bracing. Heavy duty universal mounting plate fits masts up to 1 1/2 inch O.D. Antenna handles full KW AM/CW or 2 KW P.E.P. SSB input. Feed with one coax line, RG-8/U recommended. The TA-33 may also be used on 40 meters with TA-40 KR conversion. Complete with Hdw.

FORWARD GAIN: Up to 8 db. TURNING RADIUS: 15.5 ft.
 FRONT-TO-BACK: 20 db. or better WIND LOAD: 114 pounds.
 MAX. ELEMENT LENGTH: 28 ft. WIND SURFACE: 5.7 sq. ft.
 STANDING WAVE RATIO: 1.5/1 or less
 SHIPPING WEIGHT: 41 lbs.
 ASSEMBLED WEIGHT: 37 lbs.
 BOOM LENGTH: 14 ft.



\$174.00

Model TA-33 Jr.

Mosley TA-33 Jr. has quality and performance found in the TA-33. Rated to 300 watts AM and CW, - 1000 watts P.E.P. on SSB. Complete with Hdw. The Junior may be converted to MP-33 with higher power rating with MPK-3 Kit. Shipping weight 28 lbs. Assembled weight 20 lbs.

Beam designed to provide the extra gain for working hard-to-reach DX. Incorporated exclusive Mosley "Weather-Proved" traps with resonant frequency stability. Features new boom to element clamping and balanced radiation. Hardware is stainless steel. Feed with 52 ohm RG-8/U coax. Fits up to two inch mast. Use with most heavy-duty rotors. 1 KW AM/CW or 2 KW P.E.P. SSB input.

FORWARD GAIN: Full 8 db. compared to reference dipole or 10.1 db. over isotropic source.

FRONT-TO-BACK: 20 db. or better on 15 and 20; 15 db. on 10 meters.

STANDING WAVE RATIO: 1.5/1 or better.

MAXIMUM ELEMENT LENGTH: 27 ft.

ASSEMBLED WEIGHT: 42 lbs.

BOOM LENGTH: 18 ft.

SHIPPING WEIGHT: 47 lbs.

TURNING RADIUS: 16 ft.

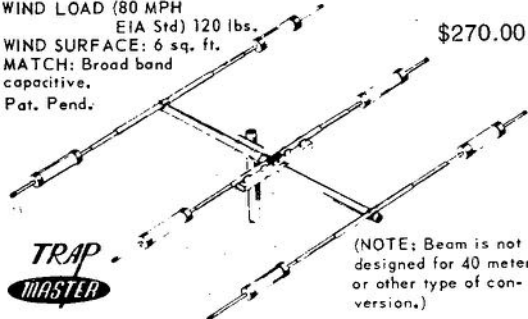
WIND LOAD (80 MPH

EIA Std) 120 lbs.

WIND SURFACE: 6 sq. ft.

MATCH: Broad band capacitive.

Pat. Pend.



\$270.00

(NOTE: Beam is not designed for 40 meter or other type of conversion.)

CL-36 \$360

Mosley 2 Metre Antennas

D12 Diplomat 5/8 ground plane \$35.50

BASE ANTENNA

MY-144-9 E1. 14dB 2KW Yagi \$49.50

MY-144-5 E1 10dB 2KW Yagi \$39.50

MM-144 5/8 mobile C/W spring and base \$31.50

HF Vertical Antennas

RV-4C 40 - 10 mtr, 2 KW \$77.25

RV-8C 80 mtr conversion \$45.25

80 - 10 Mobile antenna available

TA-33 Jr. Pwr. Conversion Kit

MPK-3 \$63.00

HY-GAIN ANTENNAS

18ABT/WB 10-80 mtr. vertical \$138.95

TH6DXX 6el. tri-band beam \$330.00

204BA 4el. 20 meter beam \$259.00

BN 86 balun \$ 22.50

RG-8U 25cft. RG-8U foam 28cft.

PL-259 connectors \$1.00 \$10.50 doz.

Coax lightning arrestors \$ 5.50

RSO-low pass filters \$31.50

6 digit LED clock kit 12/24hr. \$33.50

Larsen magnetic mounts \$16.50

KENWOOD RADIOS

TS-520S \$859.00

TS-820S \$1199.00

TS-700A \$639.00

TR-7200A \$295.00

TR-7400A \$499.00

TR-2200A \$299.00

CDE ROTORS

AR-30 \$59.50

AR-40 \$79.50

CD-44 \$158.00

HAM II \$199.00

Big-Talk \$125.00

Tail Twister \$379.00

Rotor plate \$6.50

Rotor wire 21cft 8 wire

12cft 5 wire

All orders over \$350.00 shipped prepaid in Canada except VE8 land and Labrador

Prices subject to change

MacFarlane Electronics Reg'd

RR No. 2 Batterssea, Ont

Phone (613) 353-2800

VE3BPM

160-200 KHz	CARF strongly requests a minimum allocation of 10 KHz in this band and would accept power and geographical limitations with endorsement. Understood that CIC will reconsider.		Awaiting Decision
1800-2000 KHz	AMATEUR RADIO NAV. Radiolocation FIXED MOBILE (except Aero)	Reg 2 3 Reg 2 3 Reg 2 3 Reg 1 Reg 1	Accepted
3500-3800 KHz	AMATEUR	Reg 1 2 3	Accepted
3800-3900 KHz	FIXED AERO MOBILE MOBILE (Except Aero) LAND MOBILE MOBILE AMATEUR	Reg 1 2 3 Reg 1 Reg 2 Reg 1 Reg 3 Reg 3	Not Accepted " " "
3900-3950 kHz	BROADCASTING AERO MOBILE	Reg 2 3 Reg 1 3	Not Accepted "
3950-4000 kHz	FIXED BROADCASTING	Reg 1 3 Reg 1 2 3	" "
<p>The reduction of the present Amateur band from 3500-4000 KHz to 3500-3800 KHz will seriously reduce its usefulness due to severe overcrowding. Nighttime occupancy is now averaging one signal every 1700 cycles. By 1982 with all Amateur stations in a 300 KHz band, separation will be approximately 1000 cycles. With projected growth by the year 2000 separation will be 500 cycles which would be intolerable.</p>			
6900-7100 KHz	AMATEUR	Reg 1 2 3	Accepted
<p>A world-wide exclusive band 200 KHz wide is more desirable than the present 7000-7300 KHz shared band. It is requested that an additional 50 kcs at either end of this band be considered at some future time if and when other needs decrease.</p>			with proviso that AMATEUR SATELLITE be added.
10100-10400 KHz (NEW)	AMATEUR	Reg 1 2 3	Accepted
<p>A 300 KHz band close to this part of the spectrum would be very desirable from a propagation standpoint and to relieve congestion due to loss of spectrum in the 7000 KHz band. Exact location of band is not critical but preferably beginning at an even 100 KHz frequency.</p>			with proviso that AMATEUR SATELLITE be added.
14000-14350 KHz	AMATEUR	Reg 1 2 3	Accepted
<p>This is one of the prime amateur bands and strong effort should be put forth to preserve the status quo.</p>			with proviso that AMATEUR SATELLITE be added
18300-18650 KHz (NEW)	AMATEUR	Reg 1 2 3	Accepted
<p>Exact location of band not critical but preferably beginning at an even 100 KHz frequency.</p>			with proviso that AMATEUR SATELLITE be added
21000-21450 KHz	AMATEUR	Reg 1 2 3	Accepted
<p>Maintain status quo.</p>			with proviso that AMATEUR SATELLITE be added
24000-24500 KHz (NEW)	AMATEUR	Reg 1 2 3	Accepted
<p>Exact location of band not critical but preferably beginning at an even 100 KHz frequency.</p>			with proviso that AMATEUR SATELLITE be added

HEAVY DUTY HAM TOWERS

DMXHD Heavy Duty Ham Towers can support a large amateur beam of up to 9 sq. ft. wind area. Guy wires must be used if larger loads are required or cross bar mounted antennas or if greater height using straight sections is needed.

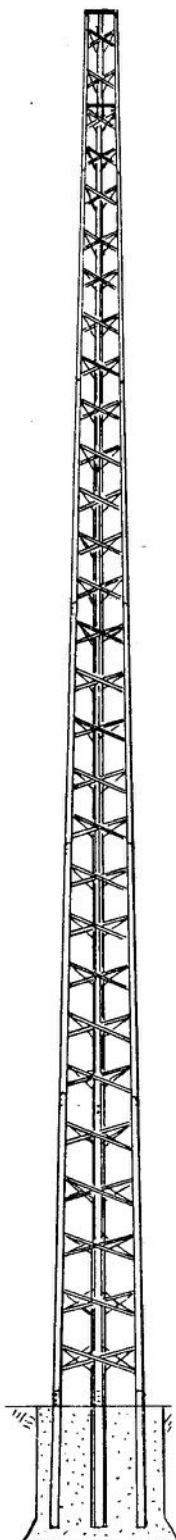
DELHI DMXMD and DMXHD towers use the larger and stronger sections of our standard eight section, 68 foot TV tower, Model DMX-68. DMXMD towers have a DMX2T top section, DMXHD towers have a DMX3T top section. Both top sections have a No. 244A cast aluminum mast clamp installed on the top plate.

Each section is 8 ft. long and has beaded channel legs riveted together with "X" braces. Legs and braces are high tensile steel, heavily galvanized before fabrication. Rivets are solid heat treated aluminum. Sections fit accurately together and are joined by heat treated nuts and bolts. The uniform tapered leg design together with evenly spaced "X" braces give the tower greater strength and reliability.

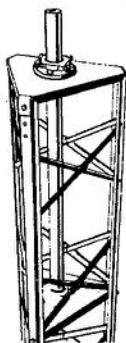
NOTE: All DMXHD Series Ham towers are shipped complete with the following:
8 ft. tower sections, top plate with cast aluminum mast clamp, rotor plate, three 4 ft. concrete base stubs, special nuts, bolts and washers. (No mast is included in package).

Model No.	Height of Tower	Tower Section Supplied	Wt. in lbs.
DMXHD-32	32	DMX3T, DMX4, DMX5, DMX6	170
DMXHD-40	40	DMX3T, DMX4, DMX5, DMX6, DMX7	241
DMXHD-48	48	DMX3T, DMX4, DMX5, DMX6, DMX7, DMX8	314

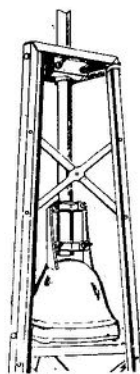
Items which may be ordered separately.		
CBS6	Concrete base stubs for DMXHD-32	14
CBS7	Concrete base stubs for DMXHD-40	20
CBS8	Concrete base stubs for DMXHD-48	21
HUB 3-6	Hinge-up base for DMXHD-32	20
HUB 7-8	Hinge-up base for DMXHD-40 or DMXHD-48	24
HD Mast	2" O.D. x 12 Ga. x 8' Galv. mast	18
MD Mast	1-1/2" O.D. x 14 Ga. x 8' Galv. mast	10
BBMB	Cast alum. ball bearing mast bearing: 2" O.D. capacity	2
TA-6	Thrust bearing with tapered rollers: 1-1/2" O.D. capacity	2



DMXHD-48

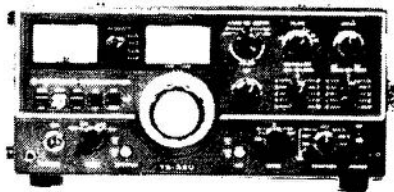


Top of tower with mast clamp plate installed.



Any make of rotor can be mounted on rotor plate.

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80-10 M Transceiver

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VE3BPM

28000-29700 KHz	AMATEUR Maintain status quo.	Reg 1 2 3	Accepted with proviso that AMATEUR SATELLITE be added
50-54 MHz	AMATEUR BROADCASTING Maintain status quo.	Reg 2 3 Reg 1	Accepted footnote 320 A included
144-146 MHz	AMATEUR AMATEUR SATELLITE	Reg 1 2 3 Reg 1 2 3	Accepted provided footnote 320 A included
146-148 MHz	AMATEUR FIXED MOBILE (exc. Aero) Maintain status quo.	Reg 2 3 Reg 1	Accepted provided footnote 320 A included
220-225 MHz	AMATEUR Radiolocation AERONAUTICAL RADIONAVIGATION Fixed, Mobile (Footnote 320 A re Amateur Satellite)	Reg 2 Reg 2 3 Reg 1 3 Reg 1 3 Reg 1	Accepted
430-440 MHz	AMATEUR RADIOLOCATION Radiolocation Amateur	Reg 1 2 Reg 1 3 Reg 2 Reg 3	Accepted
440-450 MHz	FIXED, MOBILE (exc. Aero) Radiolocation AMATEUR RADIOLOCATION Amateur MOBILE (except Aero) (Footnote 320 A re Amateur Satellite)	Reg 1 Reg 1 2 Reg 2 Reg 3 Reg 3 Reg 1	
1215-1300 MHz	RADIOLOCATION Amateur (Footnote 320 A re Amateur Satellite)	Reg 1 2 3 Reg 1 2 3	Accepted
2300-2350 MHz	FIXED Amateur Mobile Radiolocation RADIONAVIGATION Fixed (Footnote 320 A re Amateur Satellite)	Reg 1 Reg 1 2 3 Reg 1 2 3 Reg 1 Reg 1 2 3 Reg 2 3	Accepted
3300-3325 MHz	RADIOLOCATION Amateur	Reg 1 2 3 Reg 2 3	Accepted
3325-3360 MHz	RADIOLOCATION RADIOASTRONOMY Amateur	Reg 1 2 3 Reg 1 2 3 Reg 2 3	Accepted
3360-3400 MHz	RADIOLOCATION Amateur (Footnote 320 A re Amateur Satellite)	Reg 1 2 3 Reg 2 3	Accepted
5650-5670 MHz	RADIOLOCATION Amateur (Footnote 320 A re Amateur Satellite)	Reg 1 2 3 Reg 1 2 3	Accepted
10.0-10.5 GHz	RADIOLOCATION Amateur (Footnote 320 A re Amateur Satellite)	Reg 1 2 3 Reg 1 2 3	Accepted

Publications:

* Canadian Amateur Radio Regulations Handbook - up-to-date interpretation of Canadian Amateur Radio Regulations written in language you can understand, plus more useful information concerning the operation of a station in the Canadian Amateur Experimental Service.

* The Canadian Amateur Certificate Study Guide - contains the technical and operating information necessary to successfully pass the latest DOC Amateur examinations.

* If your Club is running classes, the new Instructors Package is now available to go along with the Canadian Amateur Certificate Study Guide. Lesson plans, hints on teaching Morse, large diagrams suitable for making overhead transparencies or slides, typical exam questions, and more ... all compiled by professional electronics teachers. Only \$2.50!

* A 35 mm slide package with diagrams is also available for \$5.00!

* Advanced Certificate Study Guide available in August --- for details see the Canadian Amateur.

Logo Stickers

New CARF Logo Adhesive Labels are now available from CARF, Box 356, Kingston, Ont. K7L 4W2. Two sizes are available: 6 x 2 1/2 and 3 x 1 1/4. Both sizes are 35¢ each or 4/\$1.00.

Name Badges

Hot stamped foil logo in vivid Royal Blue on a White background with your name and call in contrasting Black. Size: 3" by 1 1/2".



CARF

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FOR
THE
AMATEUR**

QSL Cards

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NEW! Miniature QSL Cards --- for business or calling cards ... exact replicas of some styles of the CARF Canadian QSL Cards are now available.

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Outgoing and incoming QSL card service is FREE to all CARF members! Your cards will be sent FREE to other countries and to provincial QSL Bureaux in Canada.

Sort your cards alphabetically by country and call and send to CARF QSL BUREAU, Box 66, Islington, Ont. M9A 4X1, along with a stamped self-addressed envelope (5"x7" preferred) with your membership number in the lower left hand corner of both envelopes.

24.0-24.05 GHz	AMATEUR AMATEUR SATELLITE	Reg 1 2 3 Reg 1 2 3	Accepted provided note 320A included
24.05-24.25 GHz	RADIOLOCATION Amateur	Reg 1 2 3 Reg 1 2 3	Accepted provided note 320A included
48.0-50.0 GHz	AMATEUR	Reg 1 2 3	Accepted provided note 320A included
71.0-76.0 GHz	AMATEUR	Reg 1 2 3	Accepted provided note 320A included
160-165 GHz	AMATEUR or any 5 GHz band in this part of band.	Reg 1 2 3	Accepted provided note 320A included
240-250 GHz	AMATEUR	Reg 1 2 3	Accepted provided note 320A included
300 GHz up	NOT ALLOCATED		Accepted

Footnote 320 A

In the bands 222-223 MHz, 435-438 MHz, 1290-1300 MHz, 2300-2310 MHz, 3390-3400 MHz, 5650-5670 MHz and 10475-10500 MHz the Amateur Satellite Service may be authorized, on condition that no harmful interference shall be caused to other services operating in accordance with the table. Administrations authorizing such use shall ensure that any harmful interference caused by emissions from an Amateur satellite is immediately eliminated in accordance with the provisions of no.1567A.

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mid-August

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ADVANCED
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Iraq, Khmer Republic**, Libya, Pakistan, Somalia, Turkey, Viet-Nam*, Peoples Democratic Republic of Yemen.

*-Stations XV5AA, XV5AB and XV5AC were authorized to exchange communications with Amateurs of other countries by the former Saigon regime.

**-Station XU1AA has been authorized to exchange communications with Amateurs of other countries.

THIRD PARTY TRAFFIC AGREEMENTS

Bolivia, Chile, Columbia, Costa Rica, Dominican Republic, Guyana, Honduras, El Salvador, Israel, Nicaragua, Peru, Trinidad, Tobago, U.S.A. (Territories and Possessions), Guatemala, Uruguay, Venezuela.

RECIPROCAL LICENCING AGREEMENTS

Belgium, Brazil, Columbia, Dominica, Dominican Republic, France Ecuador, Federal Republic of Germany, Guatemala, Israel, Peru, Luxemburg, Netherlands, Norway, Nicaragua, Poland, Portugal, Republic of Panama, Senegal, Switzerland, U.S.A., Uruguay, Venezuela, Denmark, Iceland and Finland.

Note: all Commonwealth countries are eligible for reciprocal operating privileges to Canadian Amateurs.

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Mississauga Plant

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A traditional Heathkit value

The Heathkit HW-101 is probably the most popular Amateur Radio transceiver in use today, and with good reason. It's performance-proven design is recognized by Amateurs worldwide for quality and value, and its low kit-form price makes it the least expensive, FULL-FEATURED Amateur transceiver around. Compare the HW-101 with other units selling for much more, and you'll be convinced!

Full Coverage And Full Power

The HW-101 gives you complete coverage of all Amateur radio frequencies without expensive add-ons or accessories. Its 180 watts input PEP and 170 watts CW means you'll get your signal out loud and clear. It's ideal for setting up a basic operating station, and it's compatible with all Heathkit linears, so you can add even more power when you need it.

A receiver section that really performs

Less than 0.35 μ V sensitivity for 10 dB S+N/N on SSB brings in weak stations loud and clear. The high-quality crystal IF filter keeps signals separate with a selectivity of 2.1 kHz at 6 dB down, and 7 kHz at 50 dB down. Image and IF rejection of better than 50 dB help bring you world-wide receiving that's clean, clear and crisp. There's an optional 400 Hz CW filter available too.

And a transmitter section to match

The HW-101 transmitter operates PTT or VOX on SSB and CW transceive is provided by operating VOX from a keyed tone, using grid block keying. Frequency stability is better

than 100 Hz per hour after 30 minutes warmup, with less than 100 Hz variation for a 10% line voltage variation. An FET VFO provides excellent thermal stability for heavy-duty operating without excessive heat buildup. And the performance-proven 6146 finals give you a much cleaner signal than TV-type sweep tubes.

Operating features for REAL convenience

The HW-101 is one of the easiest-to-operate transceivers we know of, it's ideal for beginners and it's a real pleasure for experienced radio Amateurs. Smooth dial drive with a 36:1 ratio and an extra-large tuning knob provide backlash-free tuning. An easy-to-read front panel meter shows signal-strength on receive, ALC voltage on transmit, and can be switched to read relative power output or final amplifier cathode current. Frequency readout is on a large, backlit dial marked with 5 kHz divisions. There's a front panel mike input and phone jack, RF and AF gain controls, mode and bandswitches, MIC/CW level, driver preselector and final controls. All controls are smooth, positive and precise to give you a truly "professional" feel.

Famous Heathkit ease of assembly

The HW-101 features a wide-open chassis layout for easy assembly and service should you ever need it. Uncrowded circuit boards, a color-coded wiring harness and special "Switch Boards" with built-in wafer switches greatly simplify assembly. Our world-famous step-by-step assembly manual tells you exactly what to do and how to do it, even how to solder. And our "We won't let you fail" promise is your assurance of technical help should you need it.

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