



# ARMED FORCES DAY 1964 COMMUNICATION TEST RESULTS

Performance of participating amateur radio operators was rated "excellent" by Armed Services communication experts during the communications tests conducted in conjunction with Armed Forces Day, May 16, 1964.

An unprecedented 7586 radio contacts with the amateur radio operator fraternity were made during the twelve hours and forty-five minutes of crossband operations which were scheduled for that one day.

Four military radio stations, WAR (Army), NSS (Navy), and AIR (Air Force), located in the Washington, D.C. area and NPG (Navy San Francisco), were authorized to conduct the tests and operated on fixed frequencies adjacent to the amateur bands throughout the test period. The general consensus of opinion within the military communicators' group actively involved was that the amateurs demonstrated a gratifying level of operating skill, technical know-how, and an obvious emergency military communications potential.

A commemorative QSL card has been forwarded to each contact who could be identified in the Summer 1964 edition of the Callbook. Any amateur who has not yet received a QSL card confirming his contact should address a request for clarification to the Armed Forces Day Contest, Room 5B963, the Pentagon, Washington 25, D.C. This request must include the amateur's call sign, the station worked, time of contact, and the frequency utilized by the military station.

A Certificate of Merit has been issued to amateurs who submitted a perfect copy of either or both of the Secretary of Defense messages which were transmitted during the communications test. There were 742 perfect entries for the 25 WPM CW broadcast and 620 perfect copies submitted of the 60 WPM radio teletypewriter message. Grading has been completed and entries not considered perfect have been returned to the sender together with a letter of explanation of the errors detected. As always, some perfect entries were submitted without identification of the sender. Here again, an amateur who has not yet received a reply to his entry should write to the Armed Forces Day Contest at the address listed above. It is quite possible that the entry may be among those as yet unidentified.

The complete text of the 25 word per minute Morse Code message is printed below followed by the call signs or names of individuals who received a Certificate of Merit for submitting a perfect contest entry.

ON THIS 15TH ANNUAL OBSERVANCE OF ARMED FORCES DAY THE

MILITARY AFFILIATE RADIO SYSTEM PAREN MARS PAREN FACILITIES OF THE ARMY CMM NAVY AND AIR FORCE AGAIN AFFORD ME THE OPPORTUNITY TO EXTEND GREETINGS TO ALL AMATEUR RADIO OPERATORS THROUGHOUT THE WORLD PD THE VALUABLE AND VARIED SERVICES WHICH AMATEURS HAVE PERFORMED BOTH IN WAR AND IN PEACE IN THE COMMUNICATIONS AND ELECTRONICS FIELD ARE WELL KNOWN AND APPRECIATED IN THE DEPARTMENT OF DEFENSE PD MODERN TECHNOLOGY CMM WHICH HAS SHRUNK OUR WORLD AND PUSHED US INTO THE SPACE AGE HAS FORCED MANY REVISIONS IN OUR CONCEPTS OF NATIONAL DEFENSE PD I AM CONFIDENT THAT FORWARD LOOKING PROGRAMS OF THE RADIO AMATEUR SERVICES WILL CONTINUE TO HELP US IMPROVE OUR KNOWLEDGE AND OUR CAPABILITY IN AN ESSENTIAL PART OF OUR DEFENSE EFFORT PD IN THIS YEAR OF THE 50TH ANNIVERSARY OF THE FOUNDING OF THE AMERICAN RADIO RELAY LEAGUE I COMMEND ITS OFFICERS AND MEMBERS FOR THEIR MANY CONTRIBUTIONS TO THE COMMUNICATIONS ART AND TRUST THAT THE QUALITY OF THEIR LEADERSHIP IN AMATEUR RADIO AFFAIRS SO ABLY DEMONSTRATED IN THE PAST WILL PROSPER AND INCREASE IN THE FUTURE SGD ROBERT S MCNAMARA CMM SECRETARY OF DEFENSE

K1AAA	K1IEH	W1SRM	K2GKO
W1AIJ	W1IHN	W1TAP	W2GKZ
W1AOR	W1IIB	K1TAX	W2CQN
W1AXK	W1IKE	W1WPR	W2HGY
W1BB	W1LZL	K1YQZ	WB2HTL
W1BDI	W1MCC	W1ZAD	WB2ILY
W1BGW	K1MEG	K1ZVN	WA2IMT
W1BMW	W1MFJ	W1ZYO	WA2INO
W1CBT	W1MD	WB2AVK	W2JCA
W1CMW	W1MIP	WA2BGI	K2JUA
K1CUE	K1NOW	W2BVE	WA2KIP
W1ECH	W1OLS	W2BXW	W2KLD
W1ELL	W1OMN	WA2CKL	W2LRW
K1EWL	K1PLP	W2CLQ	W2LYH
K1FPB	K1QZV	K2EQP	W2MTA
W1FV	K1RHN	WB2FMK	WA2MYS
K1GGG	W1RXP	W2FPM	W2MZB
W1GPN	W1SAD	WA2FPT	W2NVB
W1GZQ	K1SDX	WB2FVD	W2OBU
K1HCH	W1SGU	WB2CJG	W2OCO

W2OE	K3LYW	WA4JYB	W5GKV-	W6FLW	K7FDB	K8LXJ	W9JAM
W2OXL	W3MCG	W4KH	/MM	W6FYN	W7FIX	K8MFO	K9JSM
WA2OWQ	K3MKZ	W4KIS	W5GOC	W6FYW	W7GAQ/6	W8MHP	K9JVV
W2PKY	K3MNT	WA4KJB-	WN5GVB	W6GCG	W7GVG	W8NEM	W9JYO
WA2PVB	K3MTT	/MM	WA5GWR	K6GK	K7GXO	W8OMY	W9KCR
K2QDG	W3MWV	W4KJL	W5HFN	W6GNO	W7HNA	W8PHM	WA9KJJ
W2QND	W3NGL	WA4KPP	WN5HIA	WB6GRU	W7HWD	W8QLJ	W9KJ
WA2QPW	W3NHX	W4KR	W5AKE	W6GUO	W7IVL	W8QOK	K9PEN
WA2RGQ	K3NJW	W4KVO	W5IDZ	W6GYH	W7JMH	W8QWE	K9QMJ
W2RN	W3NOA	W4LYV	WN5IIN	K6CZ	W7KEG	K8RFU	W9RAR
K2ROT	K3NZB	W4MHV	W5IGY	W6HSA	W7KQV	W8RLR	W9TCV
WA2RSE	W3OPO	K4MTL	W5IGZ	WA6IQA	W7KX	W8SQU	W9TCB
W2RUK	W3ORS	W4MWL	WA5JDR	W6ISQ	K7KYG	K8SUX	W9TVN
W2RUT	W3OY	WA-	WA5JFB	W6JNX	W7LFA	W8TLW	W9UIN
WA2RXO	W3RDF	NDM/1	W5JGK	W6JUS	W7LPM	K8TWW	W9VHD
K2SEN	W3RKF	W4NPG	K5JGZ	W6JXX	W7MAE	W8TZO	K9VPL
W2SIL	K3STI	W4NTE	K5JVF	W6KF	W7MCU	W8VMP	W9VUD
K2SOX	W3SXL	W4NZP	W5KQC	WB6KFI	W7NUN	K8VOR	W9WNB
WA2SRK	K3TUV	W4OI	W5NW	WA6KFN	W7NWA	W8VPC	K9YMU
W2TU	K3TZD	K4OLG	W5NXZ	K6LD	W7OCX	K8VWN	W9YNK
W2TUK	K3UFV	WA4OMI	K5MBB	K6MHW	K7PBZ	W8VZ	W9YPO
K2UGZ	K3UPR	K4OMX	W5MFX	W6MMG	W7PPC	W8WVL	W9ZEN
WA2UPC	W3UOX	WA4OMZ	K5OCX	W6MSR	W7QLL	W8WXO	WA0ABO
K2UTV	K3USH	W4OSC	W5QMJ	W6NBX	K7QWP	W8ZCW	W0AGI
WA2VSQ	W3WHK	WA4OSR	WA5QVZ	W6NG	K7SPH	W8ZJY	W0AGJ
WA2VYS	W3WXB	W4POP	W5RCF	W6NRK	W7SRN	K9AHH	W0AH
W2WBY	W3WZC	W4PTR	W5RIH	W6OFK	W7TIQ	K9AIR	W0AJL
W2WHM	W3ZLP	K4PVP	K5THK	K6OGE	K7VJU/6	W9ANB	W0AWM
WA2WKK	W4AAD	W4RHZ	W5USA	W6OJW	W7VM	W9ARM	K0BAT
WA2WUB	W4ABY	W4RKQ	K5VQU	W6OSU	W7YKG	K9ARW	W0BES
K2YQK	K4AS	W4RQB	K5YAA	W6PCP	W7ZT	W9BMJ	W0BHA
W2ZMK	K4BAI	W4SLJ	K5YKS	W6PLS	K7ZVA	K9BRL	WA0BPE
WA2ZQH	W4BNU	WA4SSB	K5YTA	W6QLU	WA8AFQ	W9BRY	WA0BPR
W2ZUK	K4BP	WN4SSU	W5ZU	K6QXP	W8BTW	W9BVE	W0CCM
W2ZVU	W4BWZ	W4TGB-	W6AAQ	W6RDK	W8CJN	W9CHD	WA0CCP
W3ADE	W4CCC	/MM	W6AEE	W6RT	K8COU	W9COH	K0CDG
W3AEA	W4CH	W4UNA	W6AM	WA6ROU	W8CYN	W9CXY	K0CST
W3AEL	WA4CTD	W4UUI	W6AWP	W6RXT	W8DAE	K9DCV	W0DFP
W3AVQ	W4CXV	W4VHX	W6AXV	W6SAW	W8DD	W9DGA	W0ECE
W3AX	W4DAP	W4VUE	K6BAY	WB6SCF	WA8DDI	WA9DHI	K0EHO
W3AXA	W4DDQ	W4VYB	W6BHG	K6SHZ	K8DIU	W9DNY	W0FDJ
W3BFF	WA4DLF	K4WH	K6BPI	K6SKT	W8DJD	K9DUI	W0FEO
W3BHK	K4DMU	W4WHF	W6BVS	K6SWL	W8DQL	K9DXB	K0IDV
W3CA	W4DVT	K4YOQ	W6BYS	W6SWR	W8DSX	W9EGR	W0IQC
W3DZL	W4EFV	W4YPI	K6CB	W6TZK	WA8DYN	K9EIV	W0JMB
W3ECP	WA4EGI	W4ZM	W6CBX	WA6USU	W8DYY	W9EOK	W0JHS
W3EKL	K4EHV	K4ZSX	W6CFE	WA6UWV	K8EQN	W9ERW	W0JHY
W3ELI	K4EOF	W5ACK	W6CHL	W6VPV	WA8FBQ	WA9-	W0LGG
W3EML	W4EOP	K5ADQ	W6CKU	W6WAW	W8FFK	FDU/6	W0LOE
W3EOV	WA4FJM	W5AIR	W6CLB	W6WLI	WA8FIC	W9FKH	W0LQK
K3FKG	W4FPW	W5AJG	K6CME	W6WPF	W8FLA	WA9FMQ	W0OKH
K3GIH	W4FRO	W5ARK	W6CWR	W6WWQ	W8GMX	W9GCX	K0PHD
K3GOH	WA4GLC	W5BBV	K6DV	W6WXO	W8GTL	W9GMR	W0PYX
W3GOT	W4GLL	W5BCF	W6DVD	W6WXX	W8HCR	W9GOY	W0QQG
W3GUS	K4GMR	WA5BNK	K6DX	K6YKG	K8HKU	K9GSK	K0RAL
W3HDL/4	W4GNU	W5CAC	K6DYX	W6ZLF	W8HZA	K9GTZ	W0RGS
K3HTZ	W4HOS	W5CCF	K6EA	W6ZPX	W8IJV	WA9HDP	W0RSZ
W3IDO	W4IJK	W5CME	W6ELT	W7BJY	W8JBQ	W9HOA	W0RZU
K3ILC	W4IMC	WA5CTW	K6EPT	K7BPR	W8JGI	W9HUF	K0SQB
W3IVC	W4JIT	W5CYE	WB6EJ	W7CWN	K8KIR	W9HUZ	W0USL
W3JFP	W4JJU	W5DWB	W6EXQ	W7CZY	WA8KKD	W9HVP	K0WMD
W3JHR	K4JKK	W5EJV	W6EY	W7DIE	WN8KLP	W9IDO	K0WWI
W3JRV	WA4JWV	WA5EQQ	W6FCX	W7DEK	WN8KPO	K9IEI	K0YTA
W3JSA	W4JXD	WA5GDF	W6FHI	W7ESN	WN8KYF	W9IFS	W0-
W3KDF	W4JXG	W5GJH	K6FL	K7EWZ	W8LEX	K9ISP	ZWK/6
W3KIP	K4JXG	W5GJH	K6FL	W7EXT	K8LOU	K9IZD	IIGO

KH6AO KH6BGW WH6EUI KH6FX KL7DG KL7ETO VE1AJT VE6VV  
KH6AX KH6EVU KH6EWA KH6UK KL7DQD KP4HQ VE3EYN VK3KF

ABERNETHY, S. C. HETLAND, Harvey  
ALEXANDER, Charles P. HINKEL, John T.E.  
ANSTAEET, R. E., Jr. HOLLAND, Donnell L.  
AYLESWORTH, Richard L. HOWLAND, George A.  
BAILEY, B. W., Jr. HYATT, Joseph L.  
BAILEY, Loren E. INGRAM, Donald L.  
BALLARD, J. E. JACKSON, L. E.  
BEAM, Jack G. JENKINS, John J.  
BEASLEY, W. E. JOHNSON, Bernard W.  
BEETHAM, William J. JOHNSON, J. L.  
BREWER, Harvey D. JOHNSTON, N. L.  
BROWN, J. D., Jr. JONESTON, William E.  
BURGHOUT, Jerry A. KAYLOR, S. A.  
BURTON, D. W. KELLEY, James E.  
CAREY, Daniel C. KIRKLAND, Donald E.  
CARR, Billy E. LABERGE, Florent C.  
CARTER, Gerald G. LAFON, Curtis M.  
CHENOWETH, Charles E. LATVIS, Robert P.  
CLEAL, W. R. LAWSON, Raymond I.  
CLIFFORD, Joseph P. LAWTON, Kim B.  
CLIFTON, Jerry N. LEE, Karl W.  
COOMBE, Charles N. LEE, Ronnie E.  
COX, Larry Lyle LESNIAK, Leonard T.  
CRAIG, Donald C. LOGSDON, James R.  
CROTEAU, John N. MANCINI, Dante R.  
DAVIS, Kenneth E. MARZ, Frank H.  
DOERR, Bobby H. MAXWELL, R. I.  
ERIKSON, Nathan E. MCANNALLY, Joe C.  
FAVREAU, Richard G. MCCOMB, John B. III  
FERGUSON, Don P. MCCORMICK, Robert J.  
FIFE, Gerald D. MCGUIRE, John J.  
FLANAGAN, Lawrence E. MCREYNOLDS, Max C.  
FLANAGAN, William J. MORTON, James L.  
FRAVERT, Wray N. O'NEILL, James J.  
GARZA, Jose E. PARSONS, William A.  
GOODMAN, Thomas PASTOR, Joseph M.  
GREENWOOD, Richard J. PENNINGTON, Melvin H.  
HALLOWELL, Jimmie K. PERSINGER, Donald W.  
HAMILTON, Kenneth C. PRICE, James  
HARLEY, L. R. PRICE, Jimmie C.  
HARRIS, Paul S. PULVERMACHER, Raymond  
HARROLD, George QUIST, Lynn  
HERSHBERGER, David A.

The complete text of the 60 words per minute teletypewriter message is printed below followed by the call signs or name of the successful participants who submitted perfect copies of the message.

THE COORDINATED EFFORTS OF ARMY CMM NAVY AND AIR FORCE MILITARY AFFILIATE RADIO SYSTEM PAREN MARS PAREN FACILITIES AGAIN AFFORD ME AN OPPORTUNITY TO EXTEND GREETINGS TO ALL AMATEUR RADIO OPERATORS THROUGHOUT THE WORLD ON THIS 15TH ANNUAL OBSERVANCE OF ARMED FORCES DAY PD THE VARIED AND VALUABLE SERVICES WHICH RADIO AMATEURS HAVE PERFORMED IN WAR AND PEACE IN THE COMMUNICATIONS AND ELECTRONICS FIELDS ARE WELL KNOWN AND APPRECI-

RADIO GANG, USS  
TATNALL (DDG-19)  
RAMOS, Larry  
RANEY, H. J.  
REEVES, Norman R.  
READ, Walter A.  
REWIS, J. C.  
RINEHART, Harvey A.  
RIVETT, Stanley E.  
RIZZO, A. S.  
ROGERS, Richard F.  
RUPP, John D.  
RYAN, Norman A.  
ST. PIERRE, J. J.  
SANDBERG, George J.  
SANTOS, Tommy  
SCHOONOVER, Dale R.  
SCOTT, Ralph C.  
SENOGLES, Glen D.  
SHAFFER, Robert R.  
SMITH, Clarence E.  
SMITH, Victor E.  
SNYDER, Michael C.  
SORBER, Fritz H.  
STEWART, James E.  
STEWART, John H., Jr.  
STOUT, Carl W.  
TAYLOR, James P.  
TENHULZEN, Lewis J.  
TENTH NAVY MARS  
DISTRICT DIRECTOR  
THOMAS, David R.  
THWEATT, T. G.  
TODD, Harold C.  
TOMACELLI, Carmine  
TULP, D. L.  
TYSON, Harold G.  
VANDERBURGT, A. J.  
WEBB, Gary G.  
WEST, George W.  
WILLIAMS, F. K.  
WILLIAMS, Lloyd M.  
WILLIAMS, Susan

ATED IN THE DEPARTMENT OF DEFENSE PD MODERN TECHNOLOGY WHICH HAS PUSHED US INTO THE SPACE AGE AND SHRUNK OUR WORLD HAS FORCED MANY REVISIONS IN OUR CONCEPTS OF NATIONAL DEFENSE PD I AM CONFIDENT THAT FORWARD LOOKING PROGRAMS OF THE RADIO AMATEUR SERVICES WILL CONTINUE TO HELP US IMPROVE OUR CAPABILITY AND KNOWLEDGE IN AN ESSENTIAL PART OF OUR DEFENSE EFFORT PD IN THIS YEAR OF THE 50TH ANNIVERSARY OF THE FOUNDING OF THE AMERICAN RADIO RELAY LEAGUE I COMMEND ITS OFFICERS AND MEMBERS FOR THEIR MANY CONTRIBUTIONS TO THE COMMUNICATIONS ART AND TRUST THAT THE QUALITY OF THEIR LEADERSHIP

IN AMATEUR RADIO AFFAIRS SO ABLY DEMONSTRATED IN THE PAST WILL PROSPER AND INCREASE IN THE FUTURE SGD ROBERT S MCNAMARA CMM SECRETARY OF DEFENSE

K1AAA W2JAV K3LTI W4KZF  
W1AXK K2JTU W3MHD W4MGT  
W1BGW K2KAQ W3MWV K4MKO  
W1EFF W2KDE K3MYW W4MWL  
W1FGL W2KLD W3NMP WA4NDM  
K1GGG W2KOZ W3NNV W4NWK  
W1GPY K2KUC W3NQA WA4OCY  
K1HCH WA2LKF W3PQZ W4OFV  
K1IIE W2LKP W3RCJ W4OQN  
W1IRH W2LVW W3RDF W4OSO  
W1KAY K2MWN W3SXL K4PAN  
W1KOT W2MXB W3TUX W4PIF  
W1MCG W2MXN K3TZD K4PME  
W1MEG W2MZB W3UDG W4QCE  
W1MFJ W2OKO W3UKO K4QEU  
K1NAG W2ORX K3UPR K4QLH  
K1OCS K2OWC W3USA WA4-  
W1OHM K2OWD W3VOX QZG/4  
W1OMN W2PEE W3VYY W4RNY  
K1OOZ WA2QFK W3WAL W4ROB  
K1OQA WA2QOI K3WGV W4RWM  
W1OQC WA2QPW W3WLF K4SCP  
W1OUG K2RJF W3WVX WA4TFE  
K1PLP WA2RSE W3WXB K4TKU  
K1SDX W2SMX K3YGS W4TQD  
K1TZO K2SOX W3YPI K4UMK  
W1UGV K2SQL K4ACZ W4USA  
K1USN W2SUH W4AIV K4UZI  
K1YZG W2TAM W4AIV W4VHX  
K2AXM K2ULY WA4AVI W4VUE  
WA2BEI K2VAM W4AWY K4WPL  
WA2BGI K2VRK W4BCO K4WRN  
W2BLV K2VBJ W4BRH W4WUX  
W2BVE WA2- W4CBW W4YOA  
W2BXW WDW W4CCC W4ZXI  
W2BCTU W2WNN K4CHE/6 W4ZZV  
K2CWI WA2WWF WA4ECY W5ANH  
W2DLT K2YQK WA4EHM W5AJG  
WA2DMY WA2YXX K4EIV W5APM  
W2DXD WA2YZN K4EID W5ARK  
K2ECQ W2ZKY W4EKS K5AVR  
K2EID W2ZMK W4FJ W5AWK  
WA2ELE WA2ZVL K4FVO W5BOT  
WA2ELK W3BHK W4GOF W5BW  
WA2EMB W3CA K4GZS K5CIL  
K2EQP W3CRO K4HNT WA5CKG  
WB2GJG W3DJZ WA4HSM W5CME  
K2GOS K3ECF K4IFS WA5CON  
WA2GPF K3ENA W4IMZ W5CYE  
W2GQN W3EOV K4IQV K5DNH  
WA2GSO K3ETV W4ISM W5DVV  
WA2GTH K3FMH W4JJT W5DWB  
K2GYX K3GBV W4JJU W5EDZ  
WA2HDP K3CGQ K4JJZ W5EJV  
W2HHP W3GUS K4JKK W5FGA  
WA2HIK W3HLD K4JPR K5GCT  
WB2HPC W3JNE K4JXG W5GJH  
W2HWH W3JRV W4KH W5GMM  
WB2IGL W3KQE K4KHT K5GNE  
WA2IKT K3LDD K4KKZ WN5IBY  
W2ISK K3LLI W4KR W5IDZ

W5IGY WB6FTD W6YOK K8MYF  
K5IOB K6GB W6ZVV W8OMY  
K5IOC W6GCC WA6ZXT W8QWE  
K5JQC W6GGC K6ZYU K8RJI  
K5JGZ WA6GHC K7AEY W8RRE  
K5KEN W6GYH K7BOG K8SOE  
W5KQC K6GZ W7EQU W8SQU  
W5KVM W6HBU W7ESN K8SUX  
W5LDL W6HKB W7EVW W8TLW  
W5LHX K6HWV W7EYF K8TQR  
W5LPZ WA6IBF W7EYW K8TXT  
K5MBB WB6IIV K7FDB W8TZO  
K5MCM W6ITR W7FIX W8UUS  
K5MKA W6JDN W7GAL W8VMP  
K5NCW W6JWF W7GVG W8YFX  
W5OOQ W6JXK K7IVL K8YIF  
W5PZA W6KF W7JMH K8YJQ  
W5QBU K6KFF K7JZT W8ZEP  
W5QFA W6LDG W7KEG W8ZJY/4  
W5QGU W6LFF W7KX W8ZYW  
K5RBA W6LHV W7LPM W9AZW  
W5RCF W6LIP W7MCU W9BGX  
K5RDP WA6LZB W7MEV K9BPO  
W5TCZ K6MDD W7PHG K9BRL  
W5THK K6MLR W7PPC K9BSL  
W5TYI K6MNZ W7PRG W9BWI  
W5USA WA6MQL K7QWP W9CAV  
K5UWE W6MTJ W7SNY W9DGA  
K5VHM WA6NDZ W7SRM W9DGV  
W5WEI W6NQH W7TMA K9DOF  
W5WUU W6NRK W7TYG K9DPU  
W5YQC W6NRM W7TYR K9DUI  
W5YIJ WA6NUH W7VKO W9DUM  
W5YJ W6OJF W7VPH W9DVJ  
K5YKS W6OQI W7YWF W9EEL  
W6AAQ W6OWP K7ZIR K9EHP  
WA6AAY WA6OXR W7ZT K9ENU  
W6AEE W6PDD W7ZXM W9ERW  
WB6AQR K6PDR K8ACC W9FAC  
K6ARR W6PTN WA8AFQ W9FZC  
W6ASH K6QMJ WA8BOT K9GFN  
W6AXV W6QQM W8BTW W9GMR  
K6BAY WA6QWI W8CJD K9GSK  
W6BFA WA6RBT W8CJT K9GTZ  
W6BHG W6RMM W8CRY W9HDP  
W6BIK W6SCQ K8CSG W9HOA  
K6BPI W6SCR K8CTI WA9HRH  
W6BVY K6SEZ W8DBR WA9IBB  
W6CAL K6SHZ W8DFA WA9JBL  
K6CCJ WA6SJZ WA8DYG WA9KEJ  
W6CG K6SLA W8FAX WA9KJJ  
W6CQI K6SNA W8FEU K9KVA  
WB6CUB K6SWL W8FWG K9LGI  
K6CUD W6SWR WA8FFY K9OJQ  
WB6DBD K6TEH W8GKN W9OPI  
W6DOU K6TEN W8GTL K9OXA  
WB6DRY WA6UAO K8HTS K9PEN  
WA6DTH W6UXM W8IJV K9QKC  
K6DYX W6VBU K8INR W9QKF  
WA6DZM W6VHF K8JHA K9QNV  
W6ECP WA6VVR K8JIC K9RUK  
W6EFM K6WBC W8KJK K9TKN  
W6EGZ W6WLI W8KPT W9TVN  
K6EPT W6WPF W8LEX W9UMJ  
K6FL WA6WXJ K8LXJ W9VDC  
W6FLW W6YDK W8MBB K9WEH



K9WJR	W0ABA	W0BHA	W0EHO	W0HHS	W0LQV	K0QVM	KH6AOL
K9WMP	W0AJL	K0RTJ	K0EII	K0HPQ	K0LTK	K0QVN	KH6AX'
K9W0Q	W0ALW	K0CGP	K0EQH	W0HVA	K0MAL	W0RSP	WH6EUI
K9ZBY	W0APF	WA0COR	K0FLK	K0HZO	K0OJQ	W0TUH	KL7DTR
W9ZFA	K0AQO	K0CZO	W0FQW	K0IQR	W0OKH	W0WWI	VE3CM
W9ZGC	K0ATZ	W0DFP	W0FUH	W0JHS	K0OPZ	W0YPT	VE3IR
K0AAR	K0BEC	K0DOM	W0GJN	W0JMB	K0PHD	KH6AO	VK3KF

BAKER, Jesse L.  
BAWDEN, C. R.  
BELLEROSE, E. J.  
BENCINI, Franco L.  
BERNITTER, Steven  
BOWDEN, C. R.  
BROWN, Robert G.  
BUREAU OF MINES ARC  
(PITTSBURGH)  
BURTON, D. W.  
CLEAL, W. R.  
COLE, Robert E.  
CRELIN, Robert R.  
DAVIS, Douglas T.  
EDWARDS, Willie H.  
ENGEL, Roberto W.  
FARRELLY, Terry  
GIUNTA, J.  
GOODMAN, David J.  
HALLOWELL, Jimmy K.  
HARDIN, Dewey J.  
HARRIS, Paul S.

HERBERT, W. J., Jr.  
HOLT, Robert V.  
HOYT, Duffy E.  
JAMES, Rodney A.  
JOHNSON, Donald E.  
KENNEDY, C. J. W.  
LEE, Ronnie Earl  
LIGON, John L. (Mrs.)  
LUND, Donald S.  
MANCINI, Dante R.  
MENADIER, Paul T.  
PAPEZ, C. J.  
PENNINGTON, Melvin H.  
POTTER, Roy A.  
PRICE, Jimmie C.  
QUIST, Lyn C.  
RADIO GANG, USS  
TATNALL (DDG-19)  
RADIO GANG, USS  
CHARLES R. WARE  
(DD-865)  
RADIO GANG, USS

WATCHMAN (AGR-16)  
RADTELESOCIETY OF  
SOUTHERN CALIF.  
RANDOLPH AFB, TEXAS  
RANEY, H. J.  
RIZZO, A. S.  
ROBERTS, Conrad E., Jr.  
SHAFFER, Robert R.  
SMITH, Victor E.  
STEWART, James E.  
TAYLOR, James P.  
TUNKS, Richard D.  
USN & MCRTC,  
Lawrence, Mass.  
USS GUADACANAL (LPH7)  
COMM (Radio) Div.  
USS SHANGRI-LA  
VISALLI, Joseph  
WENDT, Frank E.  
WYNN, Neal B.  
YOUNG, Joseph D.

**"LETTER STATES, I CLAIM THE FIRST QSL CARD  
EXCLUSIVELY RTTY"**

## RADIO TELETYPE CONFIRMATION

To \_\_\_\_\_ Confirming Two-way Teletype Contact \_\_\_\_\_ 196\_\_

Time \_\_\_\_\_ GMT Band \_\_\_\_\_ Your Signal \_\_\_\_\_ % Solid Copy

# W 4 A I S

Printers: Model 15 \_\_\_\_\_ Converter CV-89 A \_\_\_\_\_ Receiver SX 117

Transmitter: 100 V \_\_\_\_\_ Amplifier 4-1000 A \_\_\_\_\_ Ant: TA-33 \_\_\_\_\_

George D. Tate - 7 Artillery Rd. - Taylors, S. Carolina

## WIDE USES OF TELETYPE EQUIPMENT DESCRIBED IN NEW BROCHURE

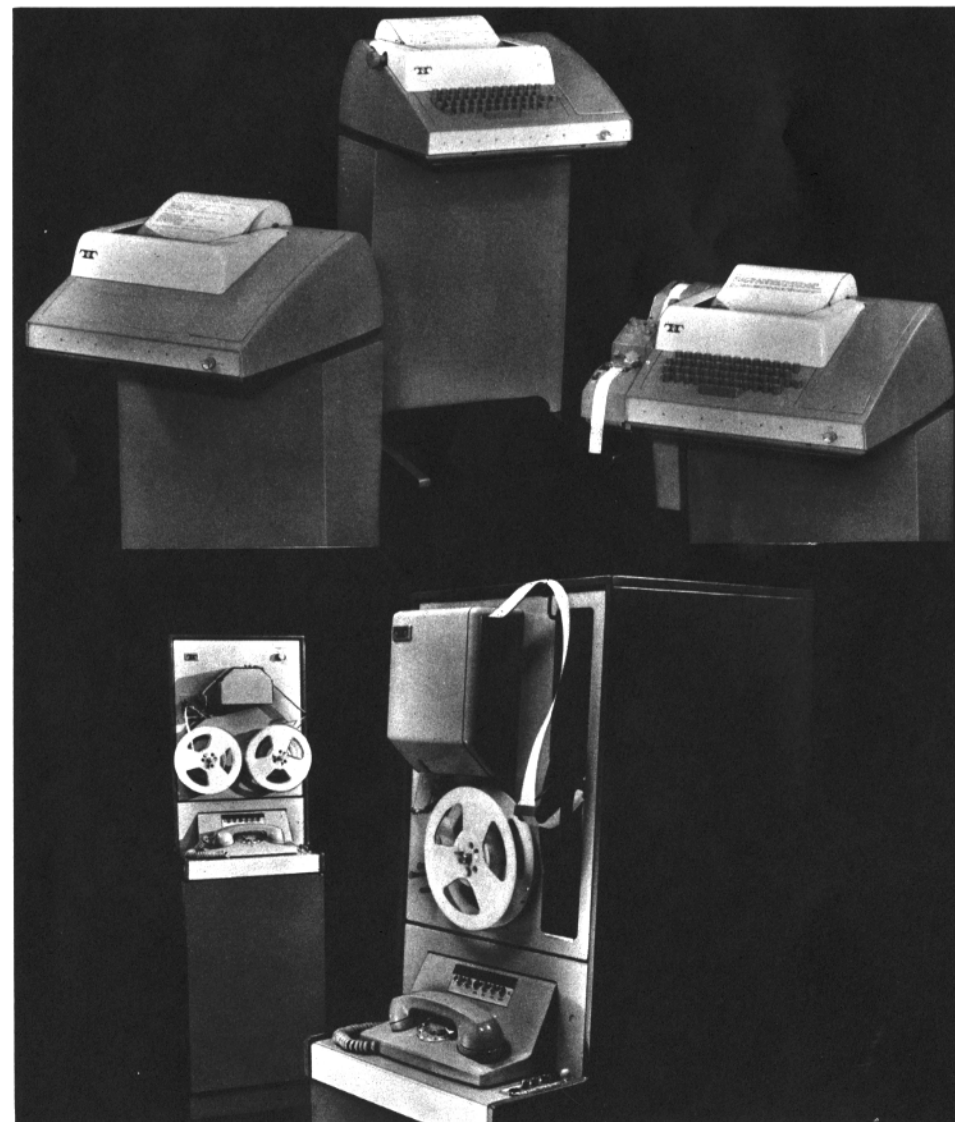
"How Teletype equipment can make all your data communications faster, more accurate, less costly" is the title of a new 6-page brochure published by Teletype Corporation.

The illustrated brochure is written in non-technical terms to acquaint users and potential users with new model Teletype equipment and their general applications. By discussing a number of applications, the brochure shows how Teletype systems can be used for such purposes as processing orders, centralizing

purchasing of supplies, controlling inventories, and communicating with computers.

The new Teletype models described in the brochure are the standard-duty Model 32 and Model 33 series, the heavy-duty Model 35 series, and the Telespeed 1,050 words-per-minute tape-to-tape sets.

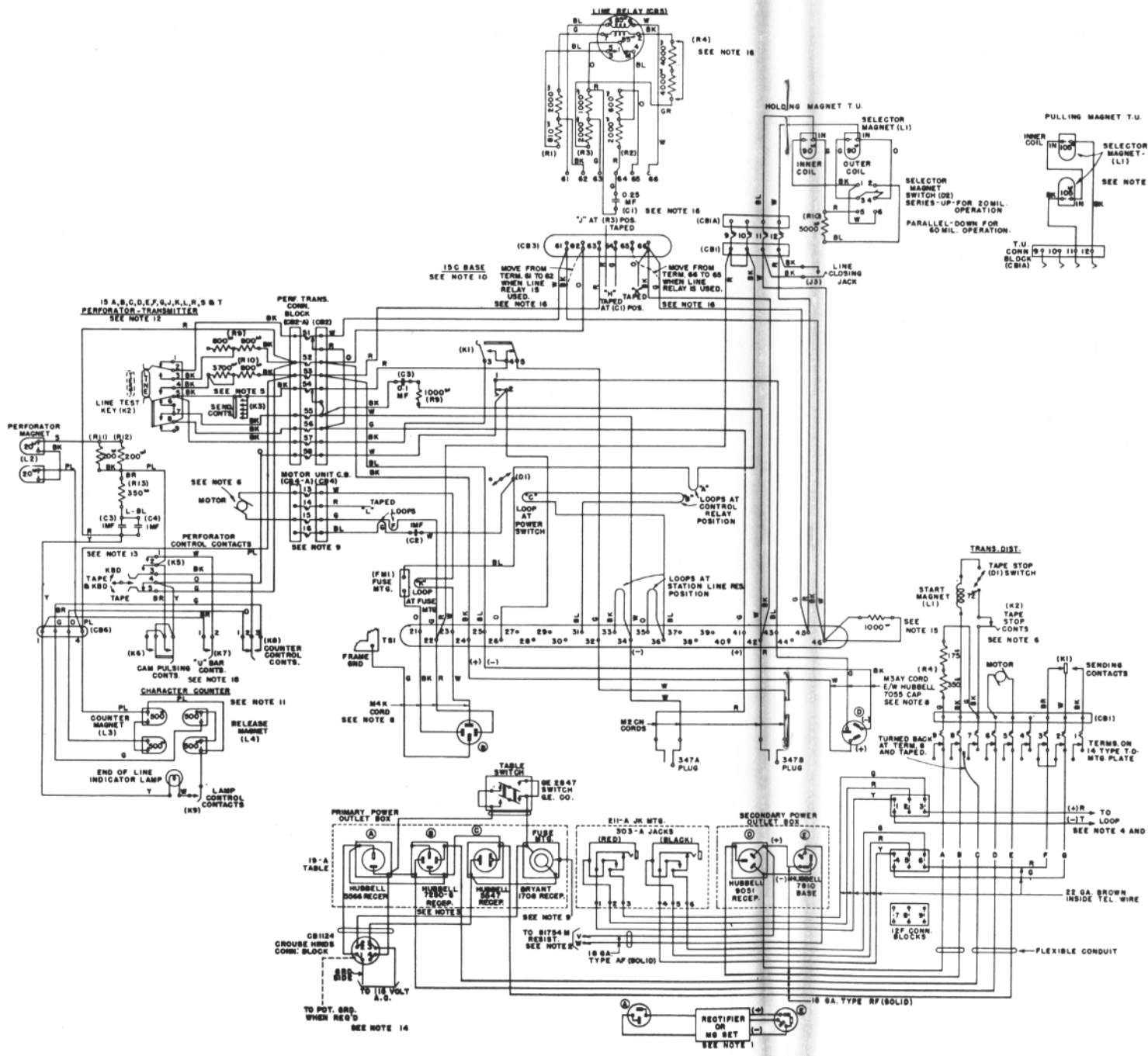
Free copies of the brochure are available upon request. Write to: Teletype Corporation, Dept. SP-41, 5555 Touhy Ave., Skokie, Ill. 60078.



BELL SYSTEM PRACTICES  
TELETYPEWRITER STATION  
INSTALLATION & MAINTENANCE

SECTION P30.954  
ISSUE C JUNE 1959  
1806 LINES DEPT.

LESLIE JOHNSON, WA9HGD  
168th & Kilpatrick Aves.  
Tinley Park, Ill. 60477



NOTES

- (A) WHEN A M-G SET IS USED, AN 81754M RESISTOR UNIT IS ALSO REQUIRED.  
(B) FOR VOLTAGE SETTINGS SEE BSP P31.101 FOR RECTIFIERS, BSP P31.100 FOR M-G SETS.
- WHEN AN 81754 M RESISTOR UNIT IS NOT USED, TAPE THE "V" AND "W" LEADS. ORDERING INFORMATION FOR TABLE ACCESSORIES CAN BE OBTAINED FROM DRAWING ED 81821-018.
- FOR DUPLEX OPERATION SEE APPROPRIATE BSP SECTIONS AS REQUIRED.
- STRAP THE 3700 OHM PORTION OF (R10) FOR 80 MIL OPERATION. SEE BSP P30.412 PLAN M2 06.
- FOR WIRING DIAGRAMS OF COMPONENT UNITS, REFER TO BSP SECTIONS AS FOLLOWS:
 

14 TRANS.-DIST.	P36.351	19A TABLE	BELL LAB. DWM 50-64032-81
15 BASE	P36.301		
15 MOTOR UNIT	P36.301		
215 RELAY	P31.181		
15 TYPING UNIT	P36.301		
18 PERFORM. TRANS. MOTOR-GEN SET	P38.382		
RECTIFIERS	P31.101		
- PROVIDE WAVE SHAPE SETS AND SWITCHBOARDS AS REQUIRED. SEE BSP SECTIONS P15.001, P30.820, P60.101, A4889.902 AND AB84.085.
- SEE BSP P30.401 FOR COLOR CODE OF OLDER TYPE CORDS.
- FOR CAPACITY OF FUSIONS OR FUSTATS REQUIRED, SEE BSP P31.152; FOR CAPACITY OF FUSES REQUIRED, SEE BSP P31.191.
- A 15A OR 15B BASE MAY BE USED INSTEAD OF A 15C. SEE SECTION P30.959.
- FOR OPERATION OF CHARACTER COUNTER SEE BSP AB84.140.
- NO 15M, N AND P PERFORATORS MAY ALSO BE USED, HOWEVER, THEY HAVE A SOMEWHAT DIFFERENT WIRING ARRANGEMENT, PRIMARILY IN THE CHARACTER COUNTER. SEE BSP P36.352.
- KEYBOARD CONTROL OPERATING LEVER FUNCTIONS WILL NOT BE ENERGIZED, CAN TRANSMIT DIRECT KEYBOARD BUT NOT FROM TRANS. DIST.  
TAPES & KBD POSITION: LOWER PAIR PERFORM. CONTROL CONTS. CLOSED, PUNCH MAGNET ENERGIZED DUE TO OPERATING SPRINGS OF THE CAM PULSING CONTS. RIDING INTO INDENTS ON TWO OF THE TRANSMITTING CAMS TOGETHER WITH CLOSURE OF "U" BAR CONTACTS. CAN SEND KEYBOARD AND PERFORATE TOGETHER, ALSO CAN USE T.D. BUT NOT SIMULTANEOUSLY WITH KEYBOARD.  
TAPES POSITION: "ALL PERFORM. CONTROL CONTS. CLOSED, TRIP-OFF PAWL HELD DOWN PREVENTING KEYBOARD SENDING, OPERATION OF ANY KEY LEVER MOVES UNIVERSAL BAR DOWN CAUSING U-BAR CONTS. TO CLOSE WHICH ENERGIZES PUNCH MAGNET TO PERFORATE TAPE. REPEAT SPACE MECHANISM DISABLED. CAN TRANSMIT FROM TRANS. DIST. ONLY.
- REFER TO BSP SECTION P30.018 FOR TYPE OF POWER CORD TO BE USED AND FOR INFORMATION AS TO WHEN POTENTIAL GROUND IS REQUIRED.
- SEE BSP SECTION P31.183 FOR INFORMATION ON USE OF 1000 OHM SHUNT FOR HOLDING MAGNET TYPING UNITS. NOT REQUIRED WITH PULLING MAGNET TYPING UNITS.
- LINE RELAY MOUNTING UNIT IS NOT PROVIDED ON 15C BASES. WHEN IT IS NECESSARY TO USE A LINE RELAY INSTALL A NO. 91786M SET OF PARTS AND APPLY PLAN M2 18. BSP P30.412. ALSO, THE (R4) RESISTANCE (8000 OHMS) MUST BE STRAPPED FOR 80 MIL OPERATION.
- A LINE RELAY SHALL BE USED IN THE TELETYPEWRITER WHEN A PULLING MAGNET IS USED.
- PERFORM. TRANS. OF LATER MANUFACTURE ARE EQUIPPED WITH THE 112570M CAM PULSING CONTACTS HAVING ONLY ONE SET OF CONTACT SPRINGS OPERATED FROM CAM NO. 3.

19 TYPE TELETYPEWRITER  
TYPICAL ARRANGEMENT  
115 VOLT  
AC POWER  
SINGLE OPERATION WITH 15C BASE  
19A TABLE

COLLINS RADIO COMPANY CEDAR RAPIDS DIVISION



Cedar Rapids, Iowa 52406 telephone: area code 319, 365-8411 cable: COLINRAD

July 23, 1964

Mr. Merrill Swan  
RTTY, Inc.  
372 Warren Way  
Arcadia, California 91007

Dear Merrill:

Word came to us the other day from an RTTY enthusiast that he had contacted you and you apparently did not yet have information to key the 32V-3.

Enclosed are a couple of circuits, one of which employs a 6AL5 Tube and the other a pair of 1N34 diodes which have been sent in to us by customers who claim they work adequately.

Inquiries about RTTY seem to be increasing and I refer each to you; I hope it has helped the circulation of your magazine. If we can assist you at any time, please feel free to get in touch with us.

Very truly yours,

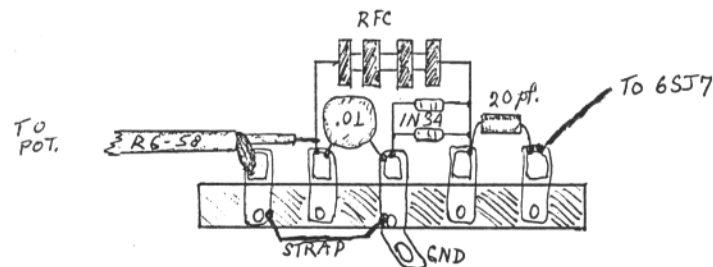
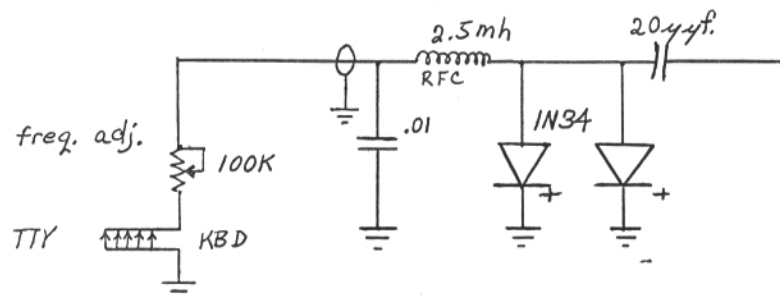
Doug Horner - W0HUF  
Service Engineer  
Amateur Radio Sales

km

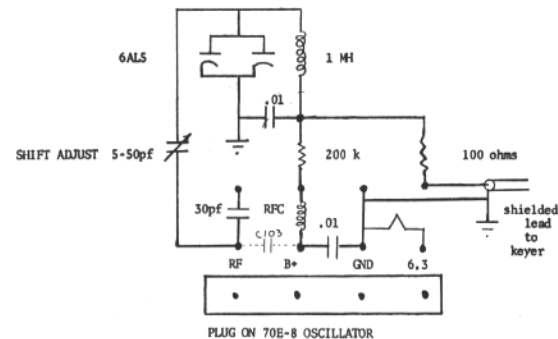
Enclosure

FREQUENCY-SHIFT KEYS  
FOR 32-V

70-E OSC.  
6SJ7



FSK ADAPTER UNIT FOR COLLINS 310 AND  
32V TRANSMITTERS



The Collins 310 and 32V Transmitters use the type 70E-8 oscillator. The 6AL5 socket can be mounted in the top of the adapter which plugs into the oscillator. While making the conversion remove the condenser between the RF and B+ terminals (C103). The frame of the teletype machine should be well grounded.

# SURPLUS BAND PASS FILTERS

Recently several of these fine filters have appeared in various places. The circuit shown below provides a means of incorporating them in your NEW TU design. A few details are given below, and will guide those who have been fortunate enough to obtain a pair of these fine filters. They are identified by numbers stamped on the cover. 673-0397-00 thru 673-0920-00, and were manufactured for the Collins Radio Company.

## GENERAL REQUIREMENTS

This specification covers a series of telegraph tone filters (receive) and their associated discriminator networks hermetically sealed in a common package.

## ELECTRICAL CHARACTERISTICS Filter Section

**Center Frequency:** The center frequency as listed in the table above by definition, is the 0 DB reference. The difference in attenuation at the frequencies 30 CPS above and 30 CPS below the center frequencies shall be less than 2 DB.

**Power Level:** -45 DBM to 0 DBM input.

**Insertion Loss:** 11 DB maximum at center frequency.

### Frequency Response:

35 CPS either side of center frequency—no more than 3 DB down.

70 CPS either side of center frequency—down at least 20 DB.

90 CPS either side of center frequency—down at least 45 DB.

At frequencies greater than 90 CPS either side of center frequency—down at least 45 DB. The filters shall meet this frequency response when operated individually or

The following is an up-to-date roster of the WAC-RTTY awards in the order they were issued:

- |           |             |
|-----------|-------------|
| 1. VE7KX  | 21. W6FYM   |
| 2. W6CG   | 22. W1BGW   |
| 3. K6OWQ  | 23. ZS6UR   |
| 4. W6AEE  | 24. VK3KF   |
| 5. W7LPM  | 25. VE4BJ   |
| 6. W2RUI  | 26. WØPHM/4 |
| 7. W2JAV  | 27. IIRIF   |
| 8. W6TPJ  | 28. DLØEQ   |
| 9. G3CQE  | 29. WØFQW   |
| 10. W6LIP | 30. W6UGA   |
| 11. W7ESN | 31. W9HJV   |
| 12. W8JIN | 32. W5CME   |
| 13. K3GIF | 33. K8DKC   |
| 14. W5BGP | 34. W3DJZ   |
| 15. WØNFA | 35. WB2CVN  |
| 16. W8UUS | 36. W6JOX   |
| 17. TG9AD | 37. VK4RQ   |
| 18. KR6MF | 38. DL1VR   |
| 19. K4JXC | 39. DL3IR   |
| 20. W7FEN | 40. W5SH    |

with any combination of filter inputs connected in parallel.

### Impedance:

Input: 600 ohms nominal at center freq.

Output: 600 ohms.

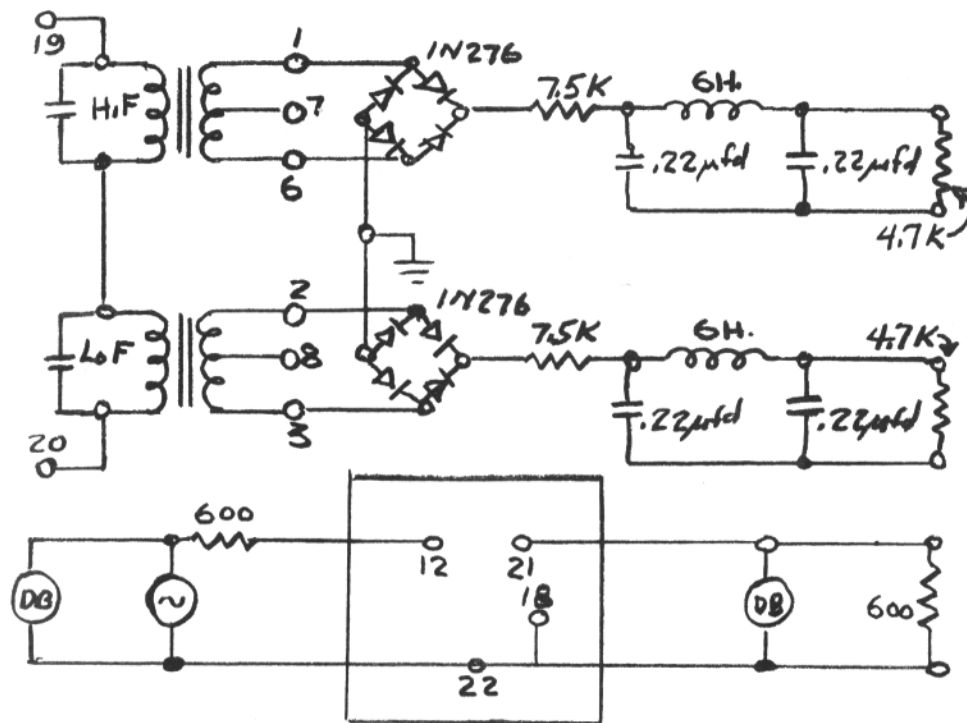
The performance of the Band-Pass Filters shall meet the requirements defined herein when operating between a 600 ohm source and a 600 ohm load. The filters shall meet the requirements of this specification when the filters are operated in parallel. The input impedance shall be nominally 600 ohms in band and of large enough value out of band so as to have negligible effect on all other filters when inputs are connected in parallel.

**Discriminator Section:** The discriminator shall be as shown in the schematic with the phasing as shown.

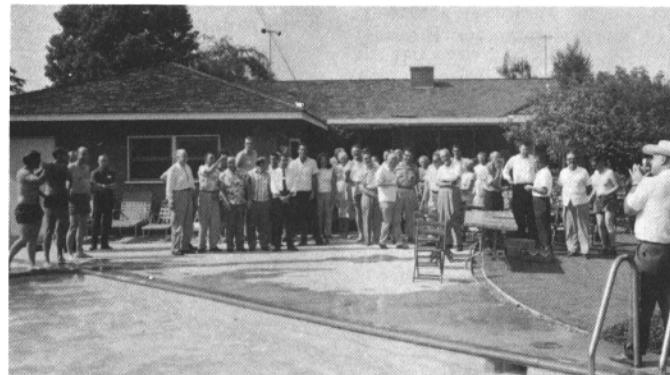
**Drive:** The drive to the primary shall be 9 V RMS minimum and 14 V RMS maximum. The driving impedance is non-linear, varying from approximately 1500 ohms to open-circuit.

**Dynamic Characteristics:** With a frequency shift of input signal of  $\pm 30$  CPS from center frequency, shifted with a symmetrical square wave of 30 CPS, the discriminator output shall be 0.7 volts peak to peak minimum. When operated in the test circuit shown.

**Shielding:** The filter network shall be isolated from the discriminator to the following extent. With the filter input and output terminated in 600 ohms, and signal of 14 volts BMS at +30 CPS and -30 CPS from center frequency applied to the discriminator input, any signal introduced into the filter shall be less than -60 DBM.



## ANNUAL RTTY MEETING AT W6AEE's HOME, AUGUST 8, 1964



## FOURTH ANNUAL WORLD-WIDE RTTY SWEEPSTAKES

THIS IS A COMPETITION BETWEEN ALL STATIONS THROUGHOUT THE WORLD TO DETERMINE THEIR ABILITY TO EXCHANGE MESSAGES VIA TWO-WAY RADIO TELEPRINTER.

1. TEST PERIOD:  
0200 GMT Oct. 17th to 0200 GMT Oct. 19th, 1964.
2. BANDS:  
This test will be conducted in the 3.5, 7.0, 14.0, 21.0, and 28.0 MCS amateur bands.

Subscription Rate \$3.00 Per Year

RTTY is the Official Publication

of the

**RTTY Society of  
Southern California**

and is published for the benefit of all  
RTTY Amateurs and Experimenters

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For "RTTY" Information:

W6DEO W6CG W6TPJ W6AEE

## DX-RTTY

Bud Schultz, W6CG

5226 N. Willmonte Ave., Temple City, Calif. 91780

## Greetings:

My family doctor is a very understanding gentleman but disgustingly unsympathetic about the importance of RTTY in my life. As a result—he took me out of circulation for the past five weeks and I find myself starting this column from scratch. If you're willing to take potluck with me, let's get started on the mail bag. For openers here's the monthly report from ED, K3GIF, which was delivered personally by Irv, K8DKC. Ed says that UL1AA understands that there is an active RTTY station operating out of Bolivia (CP) and Horacio is making a sked with the fellow thru another CP ham. No call letters were mentioned but will try to have more on this one for next month's blast. Ed also reports that due to Horacio's efforts PY2BCD of San Paulo is back on RTTY with a fine S-9 signal. Those of you who missed out on PY1KU and PY2BCD a couple of years ago should be on the watch for Eduardo on 20 meters around 0100 GMT. Jean, FG7XT, reports printing a weak signal around midnight on 20 signing "VQ8" so was unable to identify the station as to location. This is in the Mauritius-Chagos area and should be worth digging for. Europeans have recently been hearing ZS6ARL from Johannesburg and F8KI managed a QSO with him. K3GIF worked Claude, F2FO for a new one recently. Claude runs a homebrew rig with an 811A in the final and has a good signal into the States. Other new European stations now active include G3HKR and I1AHN. Sergio, I1AHN, runs 500 Watts to the final and comes thru like gangbusters! One day recently I left the printer running unattended on 14095 for about an hour around 1900 GMT. When I returned to check it out I discovered I had printed an almost letter-perfect QSO between John, G3HKR, and Rene, DL3IR!! Hope these kind of conditions continue out here on the Coast thru the Sweepstakes contest.

Jean, FG7XT, recently spent several days visiting the shack of K3GIF and as a result I am happy to be able to report the following DX scoop. Jean is planning a DXpedition to several of the Islands in the Caribbean to start about the first of September. He will operate from St. Martin, St. Bartholomew, Aruba, possibly Curacao and several other smaller

islands between Puerto Rico and the YV Coast. He has ordered a tiny Siemens tape printer through Herb, DL1VR, and secured a small TU from Frank, W3PYW, for the expedition. Jean will use a KWM-2 and possibly a small linear and get his power from a 1KW kicker. Jean will do his Island hopping in a Piper Apache owned by another ham in FG7 land. The beam and rotator have already been flown to St. Martin Island. It will take a couple of trips each time to get the beam, etc. from island to island, but Jean is confident he can pull the deal off in good shape. To the best of my knowledge this is the first "RTTY only" DXpedition in history and surely merits the moral support of all of us so start watching for Jean about the time this issue reaches your mailbox.

Just received a note from Arnold, KW6DS, telling of his trip to the Worlds Fair. He says he is getting ready for the contest in October and is back on the air from Wake Island every Sunday. Merrill, W6AEE, reports that the "down under" gang are still showing up quite regularly every weekend. Merrill says that VK3KF, ZL1WB, VK4RQ have been joined by Alec, ZL3HJ, who is apparently back in operation from the same old stand that he left many months ago.

I am going to use some of the space this month to publish the WAC-RTTY Award list that I have promised to do for the past six months! Hope it will goad some more of you to get your confirmations in to this office so we can add your call to the honor roll. We always do a big business in the WAC department in the weeks following the Sweepstakes Contest so we are already tooled up for the big push. Send your cards either directly to me or to the RTTY editor and they will be returned as soon as they are accredited by the committee.

I am leaving on an extended vacation in the next few days so am going to ask Ed, K3GIF, to handle the DX chores for the next issue. Please help out by sending your DX news to him for the next month. Thanks a million!! Hope to see all of you back here again in a few weeks.

Cheers &amp; 73

Bud, W6CG

... (continued)

- FOR SALE:** Model 15, and Model 19 complete. Also 14 TD and Typing reperf. FRXD Write for information. Free: reproductions of 19 circuit diagrams, send stamped envelope. WA9HDG, Orchard Hill Farm, Tinley Park, Ill. 60477.
- FOR SALE:** Collins 51J4 receiver like new, \$800. First check or money order. Conset G-50, \$175. Like new Model 14 KBD reperf, \$60. Excellent condx. KP4GN, P.O. Box 532, Guayama, Puerto Rico 00655.
- FOR SALE:** RTTYers Attention! 88 and 44 mhy toroids \$1.75 for 5. Send for list of other RTTY gear. W6VPC, 1067 Mandana Blvd., Oakland, Calif. 94610.
- FOR SALE:** Model 15 Teletype with table, excellent condx. \$80.00. Will accept TT63A Regenerator repeater on trade in. W1OHF, Honeyhill Road, Norwalk, Conn.
- FOR SALE:** Model 26A Type keyboard, K3GYS, 1610 South Iseminger Street, Philadelphia, Pa. 19148.
- WANTED:** Back issues of the RTTY Bulletin as follows: Vol. One, Numbers 2, 4, 5, 8, 11, 12. Vol. Two, Numbers 1, 5. W2TAM, 140 Summit Avenue, West Trenton, N. J. 08628.
- WANTED:** Back issues of RTTY as follows: October 1956, May 1957, July 1957, June, August, November 1960. January 1957, October 1954, July 1955. W9IQX, P. O. Box 46, Northbrook, Illinois.
- WANTED:** Page printer and AFSK TU unit complete with polar relay, loop supply and meters. Both must be in excellent condition. WN0PL, 3915 Sixth Ave., Des Moines, Iowa 50313.
- FOR SALE:** Clearing out sale AN/FGC-1 Radioteletype Converters \$50.00 Used. New with spare parts \$125.00. ALA-2 Panadapters with free conversion instructions \$29.95. 19" x 72" Open racks and enclosed racks, new and used, as low as \$12.50. Write for free list. GULF ELECTRO SALES, INC., 7031 Burkett, Houston, Texas 77021.
- FOR SALE:** 14 Non typing complete, \$49.95, less base and cover \$29.95. 14 Typing reperf with keyboard, complete \$75.00. FRXD3 reperf and TD combo non-typing \$65.00. 15 with keyboard, complete \$79.50, less keyboard \$69.50. TD complete \$49.50. 19 complete with table and TD \$149.50. 15 metal tables \$15.00. TS383A/GG Distortion test set \$250.90. All above machines have communications keyboards and synch motors and are 60 wpm for Ham use. These units sold untested and apparently complete. Add 35 percent for complete overhaul, cleaning and adjustment, for full guarantee. Columbia Electronic Sales, Inc., 4365 W. Pico St., Los Angeles 90019. Telephone WE. 8-3731.
- WANTED:** Line Feed function arm for model 26 Teletype, part number 90463. Also need cover and tape reel for 14 typing reperf. W8SDZ, 4626 Rambo Lane, Toledo, Ohio 43623.
- WANTED:** Tuned filter from BC-733, ready for use in RTTY. W6NRY, 4618 Center, Baldwin Park, Calif. Phone 337-3805.
- WANTED:** Model 14 tape reel, cover and bracket. W6NSH, 10245 Faywood Ave., Bellflower, Calif.
- FOR SALE:** Regency Transistor converter, 80-10 meters, also mobile antenna for 80-40-20 meter. WB6BZC, 772 W. Tenth, San Bernardino, Calif.
- WANTED:** R-390A/URR Receiver, cash or trade, TTY 14, 15, 19, 28. W6YJG, 1302 Pine Street, Santa Monica, Calif.
- FOR SALE:** Model 15 KSR with table, pwr supply, sync motor and comm type, \$60.00; Model 14 keyboard-typing reperf with comm type and sync motor, \$40.00; Model 14 TD with sync motor, \$35.00; 2 Model 14 kybd strip printers with table, financial type (fractions), and sync motor, \$25.00 each. 1 model 15 keyboard with financial keytops, \$5. 1 model 14 typing reperf base with reel, \$5. All machines are 60 speed, but 75 speed gears are included with 15-KSR and 14 reperf. Gerald Murphy, 2547 18th Avenue, San Francisco, Calif. 94116.
- FOR SALE:** Model 15 Teletypewriter, 60 cycle motor, table, cover, for \$110.00. W8DFA, 29 Vernon Ave., Elm Grove, Wheeling, W. Va.
- FOR SALE:** Model 15, with model 19 kybd, perforator, etc. Excellent cover, DC pwr supply, needs capacitors, instruction manual, printed circuit 5 Transistor converter and monitor unit all on one aluminum chassis, monitor uses 3BP1, needs some work, all schematics included. First \$100.00 F.O.B. J. E. Flick, 2314 Rittenhouse Street. W. Hyattsville, Maryland 20782.
- FOR SALE:** Tech manuals, TM 11-2225, TT-76, \$3.00. TM-11-5815-200 AN/FGC 20X, \$3.00. TM-11-5815-206 AN/PGC-1 and TT-4/TG \$3.00. All four TMs \$10.00. Three 60 cps TTY motors \$6.50 each. Three junction boxes for M-15 tables, \$4.50 each. One M-15 keyboard, needs work \$7.50. One M-15 keyboard \$12.75. One M-19 and two M-15 machines, KL7END/6, 5032 West 119th Street, Hawthorne, California.
- FOR SALE:** 15 printer, 60 wpm, sync w/19 kybd, \$100.00; 15 printer, 60 wpm sync, extra clean, \$85.00; 15 printer as above w/auto LF/CR, \$100.00; 14TD, 60 wpm, sync, \$65.00 w/tape-out, tight tape; 14 TD as above BRAND NEW, \$95.00; 60 wpm Teletype Test tape (magnetic); RY's, Foxes, total kbd, tones 2125-2975, both low space and low mark (upside down) 3.75" IPS 15 minutes, \$2.00; 88 mhy toroids 50¢ each, 5/2.00. K5BQA, 11040 Creekmore, Dallas, Texas 75218.
- FOR SALE:** Two model 15 machines, aluminum, 30-60 mil type, machines like new with HAM keytops and palletts. Heathkit six meter sideband rig and linear, expertly wired, works FB. 14 typing reperf w/end of line light, \$75. W6OJF, 9337 Gotham, Downey, California.
- FOR SALE:** Model 28 Teletypewriter, sending-receiving 60 wpm, capable of 75 and 100 wpm wire or radio circuits. Page printer automatic typer, console and sync motor, not tested, used \$250.00. Atlantic Surplus Sales, 181 Sackett Street, Brooklyn, N. Y. 11231.
- NOTE:** Sorry to take so much space, but it's hard to not print the above info, when it may help get someone started with RTTY.—Ed.

## CORRECTION

Apologies are in order to BEN F. WAPLE, Secretary of Federal Communications Commission for the typographical error mis-spelling his name