

**GUIDANCE FOR SHIPS
RADIO OFFICERS USING THE
POST OFFICE LONG-RANGE
MARITIME SERVICES**

PORTISHEAD RADIO GKA

GUIDANCE FOR SHIPS' RADIO OFFICERS

INTRODUCTION

PORTISHEAD RADIO handles a large amount of traffic and complex operational methods are necessary to deal with it expeditiously. This pamphlet is intended to help Radio Officers to understand the organisation so that they may obtain the best use from it and, by doing so, help the efficiency of the system for the benefit of all users. The operational hints included here and there are for the benefit of new Radio Officers and I hope that the more experienced ones will bear with me where I make points which they will understand.

GENERAL DESCRIPTION OF THE ORGANISATION

The complex, known internationally as PORTISHEAD RADIO, comprises the control, receiving and traffic-handling centre near Burnham-on-Sea, Somerset, transmitting facilities at several other stations, e.g., Portishead near Bristol, Dorchester, Rugby and Leafield, and, in the case of machine telegraphy services, reception facilities at Somerton, Somerset. Transmitting facilities are provided from time to time at other stations to meet special circumstances.

Directional and dual diversity reception is employed at Somerton for machine telegraphy services. The receiving aerial system at Burnham-on-Sea provides either omni-directional or directional reception as required for all other services.

The transmitting aerial systems employ both omni-directional and directional systems. A variety of aerials includes cage dipoles, stacked quadrants, vertical monopoles, broadbands, rhombics and steerable log periodics. The type of aerial in use depends upon the service provided.

Many transmitters are synthesised but some operate on a single-frequency. They are of various types and powers and more than half are operated by remote control from Burnham-on-Sea.

Landline facilities include teleprinter circuits in the public telex and inland telegraph networks and private wire circuits to a number of individual shipping firms and to the Meteorological Office. Local telephone exchange circuits provide for the acceptance and delivery of radiotelegrams by telephone.

During the financial year ending March 1973, more than 17 million paid words of W/T traffic and over 250,000 paid minutes of radiotelephone calls were handled. Each of the services has expanded during recent years and the rising trend is expected to continue.

About 160 Radio Officers are employed at Burnham-on-Sea at present, most of whom have served as Radio Officers at sea, but, with the continuing increase in traffic, we have a number of vacancies. If you are thinking of leaving the sea and are interested, we shall be pleased to let you have details.

To provide for the expected expansion of business in the future, we plan to build a new control centre at Somerton which will replace the present station at Burnham.

W/T SERVICE (See Table 1)

Frequencies and Callsigns

Sixty frequencies in 10 families of 6 are available. In each family there is one frequency in each of the bands 4 6 8 12 16 and 22 MHz. Figure suffixes 2 3 4 5 6 and 7 respectively are used to denote the particular band in which the frequency is allocated. When working is conducted within one band the figure suffix is not used.

The system of callsign allocation indicates the service for which a particular frequency is used. The GKA family is used for traffic lists and broadcasts of weather bulletins, navigational warnings and other items of interest to all ships. It is also the callsign by which the station is known.

The GKB GKC and GKD families are allocated for use as answering frequencies and the GKG GKH GKI GKJ GKK and GKM families are allocated for use as working frequencies.

The GKG family is also used in a special watchkeeping system designed to improve service to ships at extreme range, and for broadcasts of radiotelegrams to ships in port, (See pages 8, 9, 10, 11, 12, & 19).

Traffic Lists

Traffic Lists are sent at each even hour for ships registered in the United Kingdom and at each odd hour for ships registered elsewhere. The lists are transmitted in the bands that are open for watchkeeping, (see below), and are preceded by a short period of tuning signals.

Watchkeeping

Watchkeeping on each of the bands is adjusted to provide world-wide coverage and is affected by the conditions which are currently being experienced. If a band monitor indicates that there are opportunities for working ships then that band is opened. On 8 MHz the watchkeeping is continuous. Because watchkeeping on other bands varies in accordance with conditions, a schedule of watchkeeping is not published, but an announcement of the bands that are open is made at the beginning of each Traffic List.

Tuning Signals

When a band is open for service a tuning signal is emitted on an answering frequency selected from either GKB GKC or the GKD families. It is normal to use the GKB frequency and to introduce GKC or GKD on any band which is busy, but interference is also considered, and we try to provide a choice of at least 2 answering frequencies in each band. Where a second answering frequency is in use, ships should try to even the load by calling the least-loaded transmitter. This enables the search point and working points to reply more quickly and speeds up working generally. These frequencies are also used for the

general signalling involved in the reception of radio traffic and for arranging transfers to working frequencies. Working frequencies are used for sending radio traffic to ships but, on a quiet band, the answering frequency may be used for both answering and working.

Propagation

Before calling, the Radio Officer should make a careful choice of band by using his theoretical knowledge, practical experience and the optimum frequency guides which are described later (see page 9). In addition, he should monitor the answering frequencies to determine which presents the best signal. Generally speaking, better contacts over long distances are made by using the highest possible frequency when the path is entirely, or mostly in daylight. Account may be taken of the lagging effect of ionisation which enables a station which has just entered darkness to communicate on the daylight high frequencies during the first few hours of darkness. Deep fading of a signal which is strong at peaks is usually an indication that a lower frequency should be used; conversely if the signal is gradually falling into the noise level the frequency should be increased. Care should be taken to avoid establishing communication on a band which shows sign of fading, especially on one where a number of ships are waiting to be worked.

Tuning Ships' Receiver

Many coast stations may appear to share the same frequency but, sometimes, the frequencies are slightly different, as you will see from the following table, and by careful adjustment of your receiver some degree of separation can be achieved.

GKG2	4267.9	WCC	4268.12
GKD4	8569.6	WNU	8570.0
GKM4	8581.6	GYK4	8582.4
GKI4	8606.0	KSE	8605.6
GKB4	8557.9	KFS	8558.4
GKD6	16974.6	WCC	16973.4
GKB6	17113.0	JCS	17112.6
GKB7	22448.7	CKN	22449.3

After tuning the answering frequency which provides the best signal the receiver bandpass should be reduced to cut out interfering signals. Finally the gain should be readjusted to provide the minimum readable level of signal. Carefully following this procedure will ensure that interference is kept to a minimum.

Calling

The Radio Officer should monitor the signalling on the answering frequency before calling. If QRY signals are heard then a search is being made. If not, it is possible that a free-working system (see page 6) is in use or that the band is quiet. In any event, if one or 2 calls fail to elicit a reply, he should not call again until an end of work signal is heard. Calls should be short and in the following form:—

callsign of the station called (no more than 3 times)
de
your callsign (no more than 3 times)
=
callsign of the station called (once only)
K

A call in this form may take up to 15 seconds to send; the coast station reply may take 5 seconds, which implies that the maximum capacity of a search operator is under 3 ships per minute. The search operator sweeps from the lower to the upper limit of the calling band and only stops to answer the ships heard and it follows that, because of the time taken to complete one sweep, especially in the higher bands, short calls at frequent intervals are more likely to be heard.

Long calls will only delay others and the search point may have to tune past the long caller during busy periods. To avoid delay to others, please do not call GKB at intervals and listen through for a 'de' before sending your call sign; under busy conditions we may not be able to answer you.

If your call is not answered immediately, this may be because the Portishead operator is:—

- a. engaged with other ships, or
 - b. searching another part of the band,
- and you should resume calling at intervals. If you still do not receive a reply it should be assumed that your signals are not getting through, either because of low field strength or interference, and you should then consider calling on another band. The fact that you hear PORTISHEAD RADIO is not necessarily an indication that the converse is true.

The pressure of work on a search point operator can be gauged by studying the rate of change of QRY numbers rather than the numbers themselves. It is not a good time to call when the list is rapidly increasing because even after a contact has been established there may be a long wait. This situation very often occurs immediately after a traffic list or when meteo observations are being tendered at 1200. You should be answered and worked quickly when the list is decreasing rapidly. The in-between condition is when you hear several ships being given the same QRY in succession.

Search Methods

Depending upon the rate of calling, search methods take the following forms:—

a. Free Working

In this system, 2 or 3 operators work individually using either one or 2 answering frequencies. As each finishes working a ship he re-tunes to the calling band which he searches from the lower to the upper limit and asks any ships heard calling to stand-by. Ships are then worked either by himself or his colleagues. When the load requires more than 3 operators, a search point is opened.

b. Single Search Point

This method uses one operator to search for and answer ships' calls. He searches the band continuously, tuning steadily from one limit to the other, stopping only to answer calls or to pass ships to working points. He gives each ship a turn using whichever answering frequency

is indicated by the ship. He records the callsign, working frequency, the directional receiving aerial which gives best reception and the time at which the call was heard.

Between 3 and 6 working points are associated with the search point and, as each becomes disengaged, he applies to the search point for the next ship on the waiting list. When more than 6 working points are required, a second search point is opened.

c. Double Search Point

Both search points operate as in b. but each is responsible for only half of the calling band. They liaise closely to keep waiting times in step. In extremely busy circumstances, a third answering frequency may be introduced. Note that the search points on one band share the answering transmitters — they do not have an answering frequency each. It is particularly important, at these busy periods, for ships to call the least loaded transmitter. (See “Tuning Signals” page 3).

Although the load may not require it, search points are sometimes opened on a band which is expected to fade shortly, when we try to answer and work all ships calling before the band becomes unusable.

The number of working points provided is adjusted between bands so as to keep the ‘waiting time’ at about the same level on all bands.

Transmission of Traffic

When you transfer to your working frequency it helps us if you send a succession of ship station callsigns rather than a series of Vs. When traffic is sent, the collation should be reduced to the minimum — if the PORTISHEAD RADIO operator misses anything he will ask for it. In no circumstances should the ship QSZ unless instructed to do so. Working should be brief with full use of Q codes and recognised abbreviations. Once in contact there is no need for you to use our callsign in every call — ‘de ship’s callsign’ is quite sufficient.

The PORTISHEAD RADIO operator always listens through so that you may break his transmission; if you are able to do the same it may prove helpful.

Ships in Port

Ships due to enter port may ask for the broadcast of any messages which come to hand during their stay. These transmissions are made on a GKG frequency nominated by the ship station at a time mutually convenient to both ship and PORTISHEAD RADIO outside single-operator periods. Each message is broadcast **twice** and an acknowledgement, together with a cancellation of the arrangement, should be given when the ships leave port. The arrangements can only be made during a direct contact as they must be mutually convenient.

Two-Way schedules

Ships expecting to enter an area where communications may be difficult can apply, during a direct contact, for 2-way schedules to be arranged at a time convenient to both the ship and PORTISHEAD RADIO outside single-operator periods. It is necessary to choose the frequency band carefully and perhaps also to suggest a 'fallback' arrangement on another band for about 10 minutes later. Schedules can be useful if your ship is in any difficulty and if urgent traffic has to be exchanged over a period.

Weather Bulletins and Navigational Warnings

Weather bulletins for the Atlantic Area are broadcast 0930 1130 and 2130 GMT daily. The GKA family of frequencies is used in the bands that are open for watchkeeping.

Navigational warnings are broadcast on the GKA family of frequencies in the bands that are open for watchkeeping at the following times:—

Naveams	1730	or	1330
Navinds	0530	or	1330
Naveasts	1330	or	0130

Optimum Traffic Frequency Guides

An OTF bulletin is broadcast each Sunday at 0800 0900 2000 and 2100. If there is heavy traffic at any of these times the broadcast may be deferred to 1200 1300 0000 and 0100 respectively. The broadcast is made immediately after the Traffic List on the GKA family of frequencies. Its content is based upon a monthly mean average of predicted conditions and, because of this, the conditions experienced on just one day may not agree with the prediction. The service is provided as a guide but the information given should be checked by monitoring.

Sector Watch for Ships at Extreme Range

A special watchkeeping arrangement is provided for ships sailing at long distance particularly in the North Pacific area. The area is divided into 6 sectors each of which is bounded by the great circle route passing through PORTISHEAD RADIO (See Map on page 11).

Watch is set on the band considered to be the most suitable on one of the following ship station frequencies:—

4186.5 6279.75 8373.0 12559.5 16746.0 and 22262.5 kHz

Directional receiving aerials are aligned to receive signals on short path routes.

The corresponding coast station frequency is in the GKG family.

Watch is set for one hour in each sector at the following times:—

SECTOR	AREA BOUNDARIES (Bearings from PORTISHEAD RADIO)	TIMES OF WATCH
PANAMA	249° to 285° Callao/Acapulco	1700 2100
FRISCO	285° to 321° Acapulco/Vancouver	2100 0100

HAWAII	321° to 357° Vancouver/dateline	0100	0430
WAKE	357° to 033° Dateline/Osaka	0430	0900
LUZON	033° to 069° Osaka/Saigon	0900	1300
MALACCA	069° to 087° Saigon/Madras	0000	0800

On the band selected, PORTISHEAD RADIO transmits:—

CQ DE GKG QSX PACIFIC
(i.e., listening for ships in the sector shown against
the scheduled time)

or

CQ DE GKG QRL PACIFIC
(i.e., listening for ships in the sector but temporarily
engaged with another ship)

Calls from ships should take the following form:—

GKG (once only)
de
Ship's callsign (once only)
QSS
K

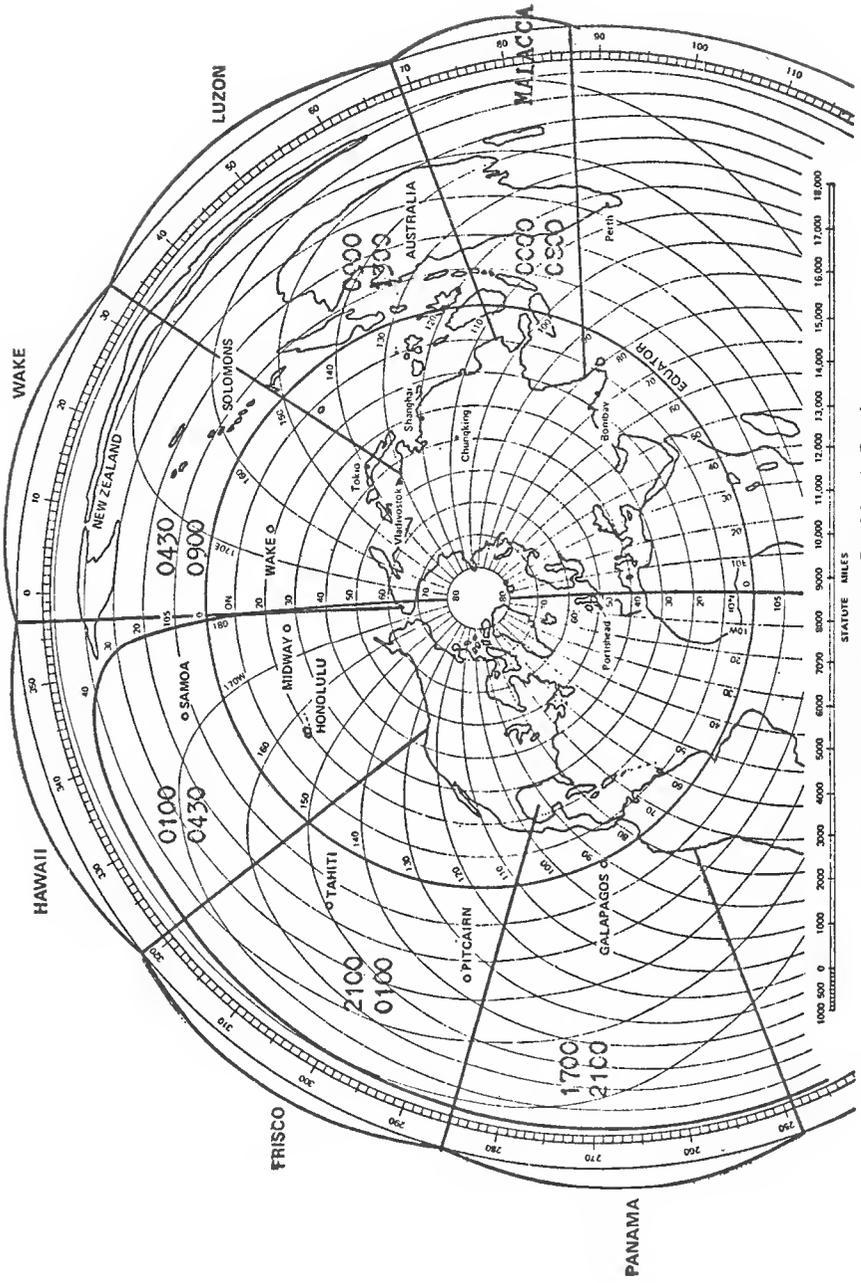
The call may be sent 3 times at intervals of one minute and thereafter should not be repeated until after an interval of 3 minutes (RR 1013E refers).

Answering and working may be conducted on the GKG frequency, but if the circuit becomes busy ships may be directed to listen to another frequency after initial contact.

SHIP FREQUENCIES
 4186.5 6279.75 8373
 12559.5 16746
 22262.5

PORTISHEADRADIO
 FREQUENCIES IN
 THE GKG FAMILY

SECTOR WATCH



On any straight passing through Portishead - Burnham

If working is in progress the ship station should not call GKG until the QSX callband is resumed.

It is emphasised that reception at PORTISHEAD RADIO is on short path routes and signals from the Southern Hemisphere may not be heard; such signals should, however, be heard in the normal service.

Ships sailing outside the areas covered by the Sector Watch are not permitted to make use of the service.

Long Distance Working

In some seasons, the only predicted radio opening to certain areas of the world may occur outside normal Single-operator Watchkeeping Periods. In these circumstances more suitably located ships can help both their colleagues and Portishead Radio by relaying traffic.

If you do relay a message to us from another ship, please include the full names and callsigns of both ships in the preamble.

RADIOTELEPHONE SERVICE (See Table 2)

Frequencies and Callsigns

Twenty-nine SSB frequencies each paired with a specified ship frequency are allocated for use in the families GKT GKU GKV and GWK, a double figure suffix denotes the band and mode of working permitted. The first figure of the suffix denotes the frequency band, ie 2 4 5 6 or 7 for the bands 4 8 12 16 and 22 MHz respectively. The second figure of the suffix is either a 1 or a 2; the suffix 1 indicates that only A3A or A3J modes are permitted on the coast and ship station frequencies. The suffix 2 indicates that PORTISHEAD RADIO may use either A3A A3J or A3H and that the ship station may use A3A, A3J, A3H or DSB.

Traffic Lists

Traffic Lists are sent in radiotelephony at each odd hour GMT on 3 bands chosen to give the best coverage. Call signs are also included in the WT traffic lists as appropriate.

Watchkeeping and Calling

Normally, watch is set on three of the higher bands during daylight and on the 3 lower bands during darkness. During the sunrise and sunset periods some adjustments may be made. During the period 0800 to 2200 GMT there is a continuous listening watch on each of 3 bands. The frequencies watched are those which are paired with a GKU callsign bearing a second figure suffix 2.

Ships should first listen to the appropriate frequency and carefully tune their receivers. When working is concluded Portishead will invite calls on the paired channels. In no circumstances should a ship call when working is in progress nor should they tune their transmitters on the frequency.

If a band is not being watched, ships may gain access by calling on WT in the normal way using the indicator QRJ in the initial call. Details are forwarded immediately to the radiotelephone section and the ship is transferred to the appropriate RT channel in the same band as quickly as possible.

During the period 2200 to 0800 GMT a listening watch is kept on radio-telephone channels (those with a GKU callsign with second figure suffix 2) immediately after the transmission of traffic lists. Outside these periods it is necessary to establish contact by WT.

Mode of Transmission

PORTISHEAD RADIO normally uses A3H for the benefit of ships without SSB equipment. Ships may use A3J but A3A is preferred and should be used where possible.

A3A = single-sideband reduced carrier

A3H = single-sideband full carrier

A3J = single-sideband suppressed carrier

Traffic Handling

To avoid delay to yourself and other ships, please be sure to tune your receiver carefully before calling.

During a contact do not use a loudspeaker because this introduces feedback howl around the circuit.

Lincompex and Privacy

Both facilities are available on request.

Two-Way Schedules

Ships at extreme range, e.g. in the Pacific area, or which are expecting urgent traffic, may request schedules to be arranged at times convenient to both the ship and PORTISHEAD RADIO outside Single Operator Watchkeeping Periods .

RADIOTELEX SERVICE (See table 3)

Frequencies and Callsigns

Eighteen frequencies are allocated for use in the GKN GKO and GKS families. There are 6 frequencies in each family allocated in the bands 4 6 8 12 16 and 22 MHz and denoted by a figure suffix of 2 3 4 5 6 and 7 respectively. Advance notice will be given of any changes to these frequencies but customers who intend to install fixed frequency receivers should check before ordering crystals.

Facilities

SITOR is available. Radioteleprinter calls may be exchanged between any suitably equipped ship and telex subscribers in the United Kingdom, and calls from ships can be extended to certain other countries. Alternatively, the radio circuits may be used for the exchange of radio-telegrams.

Traffic Lists

The callsigns of ships for which telex calls are on hand are included in the WT traffic lists.

Q Codes

The following Q codes are used on radioteleprinter circuits:—

CODE	QUESTION	ANSWER OR ADVICE
QOF	What is the commercial quality of my signals	The quality is:— 1. Not commercial 2. Marginally commercial 3. Commercial
QOG	How many tapes have you to send	I have tapes to send
QOH	Shall I send a phasing signal for seconds	Send a phasing signal for seconds
QOI	Shall I send my tape	Send your tape

Calling

Initial contact should be made by W/T or R/T in the normal way. The call should include the indicator "RTT", the SITOR selective call code of the ship and the working frequency which the ship wishes to use for RTT.

Ships may be asked to wait for a short period before transferring to Radioteleprinter channels.

Ships fitted with AUTOSPEC will be asked to transfer to the RTT channel eg GBAA DE GKC QSW GKS4 QSY 8337 QOH60 K. If satisfactory RTT contact is not established within 5 minutes the attempt will be abandoned and the ship should revert to the W/T calling band.

Ships fitted with SITOR will be asked to tune to the RTT channel where PORTISHEAD RADIO will assume the condition of master station, and operate the selective call device to establish 2-way communication.

Traffic Working

When the 2 equipments have phased details of commercial quality and the telex number required may be exchanged by teleprinter, eg

GKS4 DE GBAA QOF3 TELEX 27971 KKK (autospec)

or

GKS4 DE GBAA QOF3 TELEX 27971 one figure shift +? (SITOR).

The use of KKK in autospec working signals the 'over' condition. On SITOR this is replaced by use of the 'over' button or by signalling one figure shift +?

When the telex call is connected PORTISHEAD RADIO will signal

GBAA DE GKS THRU TO 27971 (over).

The ship should then depress the figures and WRU keys to obtain the answerback of the subscriber's teleprinter. She should then transmit her own identity and commence transmission. PORTISHEAD RADIO will monitor and time the call.

If the called party is not available, the ship may transmit information to PORTISHEAD RADIO for retransmission when the office is next opened.

RADIO INTERFERENCE

Radio interference can often be reduced by careful tuning (see page 4). Ships are asked to report harmful interference (see paragraph 93 of the International Radio Regulations) to us by service message, quoting their position and the identity of the interfering station.

Ships should always minimise the interference their own transmissions inevitably cause. Intership working on ship-shore RT channels is not permitted by the Regulations.

SELECTIVE CALLING

We propose to introduce SSFC selective calling system described in Appendix 20C of the Radio Regulations but evaluation tests are still being carried out and an operational service is not yet available on HF.

PUBLICATIONS

The latest issues of official publications provide reliable guides to frequencies etc. The attached appendices were current at the time of publication.

CONCLUSION

In these notes I have tried to tell you a little about the station and to make suggestions which could ease communication difficulties. If, in parts, I seem to have suggested how you should do your job, this is intended, as I said at the outset, as guidance for those with little or no experience and I hope you will accept it in that spirit. If you can manage it, please pay us a visit. The address is:—

Post Office Radio Station, Highbridge, Somerset.
Telephone: Burnham-on-Sea 3291

D MULHOLLAND
Officer in Charge
March 1974

W/T FREQUENCIES, CALLSIGNS, PROCEDURES

WATCHES	4178- 4187	6267- 6280.5	8356- 8374	12534- 12561	16712- 16748	22222.5- 22267.5
REPLIES ON	GKB2 4274.0 GKC2 4251.5 GKD2 4256.0	GKB3 6379.5 GKC3 6407.5 GKD3 6428.5	GKB4 8557.9 GKC4 8516.0 GKD4 8569.6	GKB5 12835.4 GKC5 13020.0 GKD5 12788.5	GKB6 17113.0 GKC6 16954.4 GKD6 16974.6	GKB7 22448.7 GKC7 22407.3 GKD7 22431.0
METHOD	WHEN A TUNING SIGNAL IS SENT ON EITHER GKB, GKC OR GKD A WATCH IS SET IN THE SAME BAND. AFTER CONTACT THE SHIP MAY BE ASKED TO LISTEN TO A PORTISHEAD TRAFFIC FREQUENCY.					
TRAFFIC FREQS	GKG2 4267.9 GKH2 4314.5 GKI2 4317.5 GKJ2 4326.5 GKK2 4336.0 GKM2 4316.0	GKG3 6469.3 GKH3 6470.8 GKI3 6472.3 GKJ3 6477.5 GKK3 6510.5 GKM3 6397.0	GKG4 8591.5 GKH4 8604.0 GKI4 8606.0 GKJ4 8684.0 GKK4 8552.0 GKM4 8581.6	GKG5 12790.0 GKH5 12791.5 GKI5 12858.0 GKJ5 12871.5 GKK5 13006.5 GKM5 12714.0	GKG6 17072.0 GKH6 17092.0 GKI6 17151.2 GKJ6 16918.8 GKK6 17167.5 GKM6 17136.8	GKG7 22503.0 GKH7 22525.5 GKI7 22528.5 GKJ7 22545.0 GKK7 22494.0 GKM7 22527.0
TRAFFIC LIST	GKA2 4286.0 GKA3 6369.0 GKA4 8546.0 GKA5 12822.0 GKA6 17098.4 GKA7 22467.0 SENT AT EVEN HOUR FOR UK FLAG SHIPS AND AT ODD HOUR FOR OTHER SHIPS.					
TWO-WAY SKEDS	TWO-WAY SKEDS MUTUALLY ARRANGED OUTSIDE SINGLE OPERATOR PERIODS AND USING PORTISHEAD ANSWERING FREQUENCIES GKB OR GKC.					
PORT WATCH	ON REQUEST TRAFFIC BROADCAST TO SHIPS IN PORT OUTSIDE SINGLE OPERATOR PERIODS AND USING GKG. EACH MESSAGE SENT TWICE. OSL ON OTO.					
WEATHER BULLETIN	ATLANTIC AREA - SENT ON TRAFFIC LIST FREQUENCIES AT 0930 1130 2130					
NAV WARNINGS	SENT ON TRAFFIC LIST FREQUENCIES. NAVEAMS AT 1730 OR 1330. NAVEASTS AT 1330 OR 0130.					

TABLE 2
 RADIOTELEPHONE FREQUENCIES CALLSIGNS AND PROCEDURES

WATCHES	4072.4 8204.4 12340.5 16470.5 22010.5 GKU22 4371.0 GKU42 8738.4 GKU52 13119.5 GKU62 17265.5 GKU72 22636.0
METHOD	<p>BANDS CHOSEN TO PROVIDE LONG DISTANCE COVER – NORMALLY THREE OF THE HIGHER BANDS DURING DAYLIGHT AND ON THE THREE LOWER BANDS DURING DARKNESS WITH ADJUSTMENT DURING SUNRISE/SUNSET PERIODS.</p> <p>CONTINUOUS WATCH 0800–2200 GMT AND AFTER TRAFFIC LIST 2200–0800 GMT</p> <p>REPLIES TO SHIPS CALLS ON THE GKU SERIES OF FREQUENCIES LISTED ABOVE. SHIP SHOULD FIRST CHECK TO SEE IF WORKING IS IN PROGRESS AND SHOULD NEITHER TUNE TRANSMITTER NOR CALL IF WORKING IS HEARD. WORKING CONDUCTED ON THE FREQUENCIES LISTED ABOVE.</p> <p>IF RADIOTELEPHONE WATCH NOT BEING KEPT IN OPERATION ON THE REQUIRED BAND SHIPS MAY OBTAIN TRANSFER TO R/T AFTER A CALL BY NORMAL W/T METHODS WHICH INCLUDES THE INDICATOR QRJ.</p>
TRAFFIC	<p>TRANSMITTED AT EACH ODD HOUR GMT ON EACH OF THE THREE FREQUENCIES ON WHICH WATCH IS BEING KEPT AND INCLUDES CALLSIGNS OF ALL SHIPS FOR WHICH RADIOTELEPHONE CALLS ARE ON HAND.</p>

TABLE 2-Continued

ADDITIONAL CHANNELS		SHIPS MAY BE DIRECTED TO TRANSFER TO ONE OF THE FOLLOWING CHANNELS			
PORTSHEAD RADIO	CLASS OF EMISSION	SHIP	CLASS OF EMISSION		
GKT22	4422.2	4123.6			
GKV42	8732.1	8198.1			
GKV52	13140.5	12361.5	A3A	A3 A3A A3H A3J	
GKV62	17286.5	16491.5	A3H		
GKT72	22685.0	22059.5	A3J		
GKU21	4367.8	4069.2			
GKU41	8735.2	8201.2			
GKU51	13116.0	12337.0	A3A	A3A A3H	
GKU61	17262.0	16467.0	A3J		
GKU71	22632.5	22007.0			
GKT21	4419.0	4120.4	A3A	A3A A3J	
GKT41	8786.4	8252.4	"	"	
GKT42	8789.6	8255.6	"	A3 A3H	
GKT51	13165.0	12386.0	"	"	
GKT52	13168.5	12389.5	"	"	
GKV51	13137.0	12358.0	"	"	
GKT61	17311.0	16516.0	"	"	
GKT62	17314.5	16519.5	"	"	
GKV61	17283.0	16488.0	"	"	
GKW61	17255.0	16460.0	"	"	
GKW62	17258.5	16463.5	"	"	
GKX61	17325.0	16530.0	"	"	
GKT71	22681.5	22056.0	"	"	
GKV71	22702.5	22077.0	"	"	

TABLE 3
MACHINE TELEGRAPHY FREQUENCIES CALLSIGNS AND PROCEDURES

SHIP FREQS	4169.0 4171.5 4166.5	6248.5 6254.0 6253.5	8337.0 8341.0 8332.5	12487.0 12502.0 12500.0	16645.0 16653.0 16660.0	22171.0 22180.0 22175.0
PORTISHEAD FREQS	GKS2 4344.5 GKN2 4314.85 GK02 4316.85	GKS3 6402.0 GKN3 6395.85 GK03 6397.85	GKS4 8496.5 GKN4 8580.45 GK04 8582.45	GKS5 12770.0 GKN5 12712.85 GK05 12714.85	GKS6 17220.0 GKN6 17135.65 GK06 17137.65	GKS7 22387.5 GKN7 22525.85 GK07 22527.85
METHOD	INITIAL CONTACT BY W/T OR R/T AND THEN TRANSFER TO SHIP AND PORTISHEAD F1 FREQUENCIES ABOVE. AUTOSPEC EQUIPMENTS RADIATE PHASING SIGNALS. SITOR EQUIP- MENTS ACTUATED BY OPERATION OF SELECTIVE CALL AT PORTISHEAD.					
SERVICE	TELEX CALLS BETWEEN SHIP AND SUBSCRIBERS OR ACCEPTS TAPES FOR LATER TRANS- MISSION.					
NOTES	THE FREQUENCIES LISTED ABOVE ARE THE ASSIGNED FREQUENCIES AND NOT THE CARRIER FREQUENCIES. IN THE CASE OF PORTISHEAD THE ASSIGNED FREQUENCY IS THE NOMINAL CENTRE OF AN UPPER SINGLE SIDEBAND EMISSION OF TOTAL WIDTH 170 HZ., IE 850 HZ ABOVE THE TRANSMITTER FREQUENCY.					

