

BS 2316 : Part 3
SPECIFICATION FOR
RADIO-FREQUENCY CABLES
Part 3. Cable Data Sheets

(METRIC AND IMPERIAL UNITS)

INCORPORATING AMDS 49, 1539 AND 3785

BS 2316 : Part 3
SPECIFICATION FOR
RADIO-FREQUENCY CABLES
Part 3. Cable Data Sheets

(METRIC AND IMPERIAL UNITS)

INCORPORATING AMD849, 1539 AND 3785

FOREWORD

In addition to the publication of the new metric data sheets listed in the contents sheet, it has been decided to retain the existing imperial data sheets which are now obsolescent, but necessary for maintenance purposes.

BS 2316 : Part 3, now becomes a metric and imperial standard and the obsolescent imperial unit data sheets will be retained for a number of years until their requirement phases out.

For the differences introduced with the new metric cables, refer to the data sheets.

Metric data sheets URM 200 to 209 inclusive supersede BS 3040, 'Radio-frequency cables for use with domestic television and VHF receiving aerials'.

Prices:

Part 3. Contents sheet, 69 imperial unit sheets and 50 metric unit sheets, complete in binder Gr 12

Part 3. Contents sheet, 69 imperial unit sheets and 50 metric unit sheets, not in binder Gr 11

Part 3. Contents sheet and 69 imperial unit sheets only, in binder Gr 10

Part 3. Contents sheet and 50 metric unit sheets only, in binder Gr 9

Part 3. Contents sheet Gr 2

Part 3. Individual data sheets, each Gr 1

Binder, if purchased separately Gr 4 plus VAT

BS 2316 : Part 3 : 1969
SPECIFICATION FOR
RADIO-FREQUENCY CABLES
Part 3. Cable Data Sheets
(INCH UNITS)

INCORPORATING AMD849, 1539 AND 3785

FOREWORD

The revision of Cable data sheets UR No.9 – UR No.104 is as follows:

- (1) The dielectric voltage test is now a 1 minute test instead of 5 minutes for alignment with the recommendations published by the International Electrotechnical Commission.
 - (2) The power ratings for PTFE dielectric cables have been amended to allow a maximum inner conductor temperature of 200 °C for alignment with the recommendations published by the International Electrotechnical Commission.
 - (3) Some changes have been made to the power ratings of helical membrane cables to align with present practice.
- All dimensions and tolerances remain unchanged.

CONTENTS SHEET

The data sheets which comprise Part 3 should be read in conjunction with Parts 1 and 2.

When complete, Part 3 should contain the following cable data sheets:

UR No.9, Issue 2, March 1968	UR No.80, Issue 2, March 1968
UR No.10, Issue 2, March 1968	UR No.82, Issue 2, March 1968
UR No.17, Issue 2, March 1968	UR No.83, Issue 2, March 1968
UR No.21, Issue 2, March 1968	UR No.84, Issue 2, March 1968
UR No.31, Issue 2, March 1968	UR No.85, Issue 2, March 1968
UR No.33, Issue 2, March 1968	UR No.86, Issue 2, March 1968
UR No.34, Issue 2, March 1968	UR No.87, Issue 2, March 1968
UR No.39, Issue 2, March 1968	UR No.88, Issue 2, March 1968
UR No.41, Issue 2, March 1968	UR No.89, Issue 2, March 1968
UR No.42, Issue 2, March 1968	UR No.90, Issue 2, March 1968
UR No.43, Issue 2, March 1968	UR No.91, Issue 2, March 1968
UR No.45, Issue 2, March 1968	UR No.92, Issue 2, March 1968
UR No.47, Issue 2, March 1968	UR No.94, Issue 2, March 1968
UR No.54, Issue 2, March 1968	UR No.95, Issue 2, March 1968
UR No.55, Issue 2, March 1968	UR No.96, Issue 3, February 1969
UR No.56, Issue 2, March 1968	UR No.97, Issue 2, March 1968
UR No.57, Issue 2, March 1968	UR No.98, Issue 2, March 1968
UR No.58, Issue 2, March 1968	UR No.99, Issue 2, March 1968
UR No.59, Issue 2, March 1968	UR No.100, Issue 2, March 1968
UR No.60, Issue 2, March 1968	UR No.101, Issue 2, March 1968
UR No.63, Issue 2, March 1968	UR No.102, Issue 2, March 1968
UR No.64, Issue 2, March 1968	UR No.103, Issue 2, March 1968
UR No.65, Issue 2, March 1968	UR No.104, Issue 2, March 1968
UR No.66, Issue 2, March 1968	UR No.105, Issue 1, March 1968
UR No.67, Issue 2, March 1968	UR No.106, Issue 1, March 1968
DR No.68, Issue 2, March 1968	UR No.107, Issue 1, March 1968
UR No.69, Issue 2, March 1968	UR No.108, Issue 1, March 1968
UR No.70, Issue 2, March 1968	UR No.109, Issue 2, February 1969
UR No.72, Issue 2, March 1968	UR No.110, Issue 2, February 1969
UR No.74, Issue 2, March 1968	UR No.111, Issue 2, February 1969
UR No.75, Issue 2, March 1968	UR No.112, Issue 1, March 1968
UR No.76, Issue 2, March 1968	UR No.113, Issue 1, March 1968
UR No.77, Issue 2, March 1968	UR No.114, Issue 2, February 1969
UR No.78, Issue 2, March 1968	UR No.115, Issue 1, March 1968
UR No.79, Issue 2, March 1968	

UNIRADIO No. 9

1. Construction

Item	Clause reference BS 2316	Details	Dimensions in inches		
			Min.	Nom.	Max.
Inner conductor	4.2	1/0.104 in p.c.w.	0.103	0.104	0.105
Dielectric	4.3	Air spaced construction polythene spacers at approximately 1.3 in spacing	0.370	0.375	0.380
Outer conductor	4.4	A copper tape or tapes formed into a longitudinally seamed tube surrounding the discs on the inner conductor, secured either by soldering 1 or more tapes or by applying 2 steel tapes helically	0.405	0.415	0.425
Outer protection	4.5	Lead alloy sheath, nominal thickness 0.070 in and minimum thickness 0.065 in	0.545	0.555	0.565
Bedding		Two compounded paper tapes and jute yarn, or one compounded cotton tape and one compounded hessian tape to give a total thickness of bedding (after application of armour) of 0.08 in			
Armour		Steel tapes 0.03 in thick			
Serving		Two compounded hessian tapes giving a nominal total thickness of serving of 0.10 in and minimum thickness of 0.07 in	1.05	1.10	1.15

2. Electrical requirements

Test	Clause reference BS 2316	Conditions	Requirements		
			Min.	Max.	Units
Voltage test on dielectric	5.3	2.5 kV r.m.s. for 1 minute			
Insulation resistance	5.4	500 volts d.c.	750 000		Megohm.100 ft
Resistance of inner conductor	5.5	D.C.		0.100	Ohm/100 ft
Capacitance	5.6	1000 Hz	13.5	14.6	pF/ft
Attenuation constant	5.9	200 MHz		2.0	dB/100 ft
Velocity ratio	5.10	200 MHz	0.96	0.98	
Mean characteristic impedance, Z_m	5.11	200 MHz	72.0	78.0	ohm

3. Climatic and mechanical robustness

Test	Clause reference BS 2316	Conditions	Requirements
Bending and air pressure test	6.5	Mandrel diameter $71 \pm 3\frac{1}{2}$ in	As in Clause 6.5

4. Service engineering data (not for specification purposes)

Rated capacitance	14 pF/ft
Rated velocity ratio	0.97
Rated impedance, Z_m	75 ohms
Maximum voltage for r.f. operation	1.75 kV peak
Maximum voltage for pulse operation	1.75 kV peak
Maximum voltage d.c. operation	1.75 kV
Weight	2 lb/ft
Minimum bending radius (for installation)	18 in
Minimum coiling diameter (for drums and reels)	68 in

POWER RATING

Frequency MHz	Ambient temperature				Nominal attenuation dB/100 ft
	20°C	40°C	55°C	70°C	
	Max. power rating (watts) in air				
100	1200	810	530	255	1.15
200	725	495	325	155	1.88

UNIRADIO No. 10

1. Construction

Item	Clause reference BS 2316	Details	Dimensions in inches		
			Min.	Nom.	Max.
Inner conductor	4.2	1/0.144 in p.c.w.	0.142	0.144	0.146
Dielectric	4.3	Polythene, min. thickness 0.265 in	0.785	0.800	0.815
Outer conductor	4.4	Lead alloy sheath, min. thickness 0.080 in	0.960	0.980	1.000

2. Electrical requirements

Test	Clause reference BS 2316	Conditions	Requirements		
			Min.	Max.	Units
Voltage test on dielectric	5.3	24.5 kV r.m.s. for 1 minute			
Insulation resistance	5.4	500 volts d.c.	750 000		Megohm.100 ft
Resistance of inner conductor.	5.5	D.C.		0.0515	Ohm/100 ft
Capacitance	5.6	1000 Hz	21.5	23.5	pF/ft
Discharge test	5.8	50 Hz	12.25		kV r.m.s.
Attenuation constant	5.9	200 MHz		1.5	dB/100 ft
Velocity ratio	5.10	200 MHz	0.658	0.670	
Mean characteristic impedance, Z_m	5.11	200 MHz	65.7	70.7	ohm

3. Climatic and mechanical robustness

Test	Clause reference BS 2316	Conditions	Requirements
Bending and air pressure test	6.5	Mandrel diameter $30 \pm 1\frac{1}{2}$ in	As in Clause 6.5

4. Service engineering data (not for specification purposes)

Rated capacitance	23 pF/ft
Rated velocity ratio	0.664
Rated impedance, Z_m	69 ohms
Maximum voltage for r.f. operation	16 kV peak
Maximum voltage for pulse operation	32 kV peak
Maximum voltage d.c. operation	130 kV
Weight	1.5 lb/ft
Minimum bending radius (for installation)	8 in
Minimum coiling diameter (for drums and reels)	30 in

POWER RATING

Frequency MHz	Ambient temperature				Nominal attenuation dB/100 ft
	20°C	40°C	55°C	70°C	
	Max. power rating (watts) in air				
100	4900	3200	2000	895	0.89
200	3250	2150	1350	595	1.35
300	2550	1650	1050	465	1.75
600	1650	1050	665	295	2.77
1000	1150	755	470	210	3.95

UNIRADIO No. 17

1. Construction

Item	Clause reference BS 2316	Details	Dimensions in inches		
			Min.	Nom.	Max.
Inner conductor	4.2	7/0.048 in p.c.w.	0.1419	0.144	0.1461
Dielectric	4.3	Polythene, min. thickness 0.260 in	0.785	0.800	0.815
Outer conductor	4.4	Braid of 0.0076 in p.c.w.	0.820	0.835	0.850
Outer protection	4.5	PVC (General purpose, black) min. thickness 0.070 in	0.980	1.000	1.020

2. Electrical requirements

Test	Clause reference BS 2316	Conditions	Requirements		
			Min.	Max.	Units
Spark test on sheath	5.2	8 kV r.m.s. at 50 Hz			
Voltage test on dielectric	5.3	23 kV r.m.s. for 1 minute			
Insulation resistance	5.4	500 volts d.c.	750 000		Megohm. 100 ft
Resistance of inner conductor	5.5	D.C.		0.067	Ohm/100 ft
Capacitance	5.6	1000 Hz	21.0	22.5	pF/ft
Discharge test	5.8	50 Hz	11.5		kV r.m.s.
Attenuation constant	5.9	200 MHz		1.7	dB/100 ft
Velocity ratio	5.10	200 MHz	0.658	0.670	
Mean characteristic impedance, Z_m	5.11	200 MHz	67.7	73.7	ohm

3. Climatic and mechanical robustness

Test	Clause reference BS 2316	Conditions	Requirements
Thermal stability			
a. High temperature	6.3.1		
Contamination after heat test		7 days at 100 + 0 - 4°C	Max. increase of attenuation at 3000 MHz as in Clause 6.3.1.5.1 12 dB/100 ft
Flexing after heat test		7 days at 100 + 0 - 4°C	As in Clause 6.3.1.5.2
b. Low temperature test	6.3.2	20 hours at - 40°C	As in Clause 6.3.2.3

4. Service engineering data (not for specification purposes)

Rated capacitance	22 pF/ft
Rated velocity ratio	0.664
Rated impedance, Z_m	71 ohms
Maximum voltage for r.f. operation	10.5 kV peak
Maximum voltage for pulse operation	21.0 kV peak
Maximum voltage d.c. operation	84 kV
Weight	0.50 lb/ft
Minimum bending radius (for installation)	5 in
Minimum coiling diameter (for drums and reels)	15 in
Minimum flexing temperature	- 30°C

POWER RATING

Frequency MHz	Ambient temperature				Nominal attenuation dB/100 ft
	20°C	40°C	55°C	70°C	
	Max.power rating (watts) in air				
100	3950	2630	1650	760	1.00
200	2650	1760	1100	510	1.51
300	2100	1380	875	400	1.94
600	1350	895	570	260	3.04
1000	970	645	405	185	4.30

UNIRADIO No. 21

1. Construction

Test	Clause reference BS 2316	Details	Dimensions in inches		
			Min.	Nom.	Max.
Inner conductor	4.2	1/0.056 in p.c.w.	0.0554	0.056	0.0566
Dielectric	4.3	Polythene, min. thickness 0.130 in	0.327	0.330	0.333
Outer conductor	4.4	Braid of 0.0076 in p.c.w.	0.355	0.365	0.375
Outer protection	4.5	PVC (non-migratory grade, grey) minimum thickness 0.034 in	0.440	0.450	0.460

2. Electrical requirements

Test	Clause reference BS 2316	Conditions	Requirements		
			Min.	Max.	Units
Spark test on sheath	5.2	5 kV r.m.s.			
Voltage test on dielectric	5.3	10 kV r.m.s. for 1 minute			
Insulation resistance	5.4	500 volts d.c.	750 000		Megohm. 100 ft
Resistance of inner conductor	5.5	D.C.		0.341	Ohm/100 ft
Capacitance	5.6	1000 Hz	21.0	22.5	pF/ft
Discharge test	5.8	50 Hz	5.0		kV r.m.s.
Attenuation constant	5.9	3000 MHz		15.0	dB/100 ft
Velocity ratio	5.10	3000 MHz	0.658	0.670	
Mean characteristic impedance, Z_m	5.11	3000 MHz	68.1	74.1	ohm
Uniformity of effective characteristic impedance Z_e	5.12	Based on nominal impedance of 71.1 ohms			

3. Climatic and mechanical robustness

Test	Clause reference BS 2316	Conditions	Requirements
Thermal stability			
a. High temperature	6.3.1		
Contamination after heat test		7 days at 100 + 0 - 4°C	Max. increase of attenuation at 3000 MHz as in Clause 6.3.1.5.1 6 dB/1000ft
Flexing after heat test		7 days at 100 + 0 - 4°C	As in Clause 6.3.1.5.2
Cold bend after heat test		7 days at 100 + 0 - 4°C 1 hour recovery immediately followed by 20 hours at -35°C	As in Clause 6.3.2.3.
b. Low temperature test	6.3.2	20 hours at -40°C	As in Clause 6.3.2.3.

4. Dimensional stability. Requirements as in Clause 6.4.2.4.

5. Service engineering data (not for specification purposes).

Rated capacitance	22 pF/ft
Rated velocity ratio	0.664
Rated impedance, Z _m	71 ohms
Maximum voltage for r.f. operation	6.25 kV peak
Maximum voltage for pulse operation	12.5 kV peak
Maximum voltage d.c. operation	50 kV
Weight	0.11 lb/ft
Minimum bending radius (for installation)	2.25 in
Minimum coiling diameter (for drums and reels)	7 in
Minimum flexing temperature	-30°C

POWER RATING

Frequency MHz	Ambient temperature				Nominal attenuation dB/100 ft
	20°C	40°C	55°C	70°C	
	Max. power rating (watts) in air				
100	1650	1100	690	305	1.66
200	1150	750	470	210	2.45
300	910	600	375	165	3.09
600	610	400	250	110	4.67
1000	450	295	185	82	6.40
3000	225	145	91	40	13.21

UNIRADIO No. 31

1. Construction

Item	Clause reference BS 2316	Details	Dimensions in inches		
			Min.	Nom.	Max.
Inner conductor	4.2	1/0.029 in p.c.w.	0.0285	0.029	0.0295
Dielectric	4.3	Polythene, min. thickness 0.110 in	0.280	0.285	0.290
Outer conductor	4.4	Braid of 0.0076 in p.c.w.	0.310	0.320	0.330
Outer protection	4.5	PVC (general purpose, black) min, thickness 0.034 in	0.395	0.405	0.415

2. Electrical requirements

Test	Clause reference BS 2316	Conditions	Requirements		
			Min.	Max.	Units
Spark test on sheath	5.2	5 kV r.m.s.			
Voltage test on dielectric	5.3	6.5 kV r.m.s. for 1 minute			
Insulation resistance	5.4	500 volts d.c.	750 000		Megohm.100 ft
Resistance of inner conductor	5.5	D.C.		1.27	Ohm/100 ft
Capacitance	5.6	1000 Hz	15.5	17.5	pF/ft
Discharge test	5.8	50 Hz	3.25		kV r.m.s.
Attenuation constant	5.9	200 MHz		3.5	dB/100 ft
Velocity ratio	5.10	200 MHz	0.658	0.675	
Mean characteristic impedance, Z_m	5.11	200 MHz	88.1	95.1	ohm

3. Climatic and mechanical robustness.

Test	Clause reference BS 2316	Conditions	Requirements
Thermal stability			
a. High temperature	6.3.1		
Contamination after heat test		7 days at 100 + 0 - 4°C	Max. increase of attenuation at 3000 MHz as in Clause 6.3.1.5.1 22.5 dB/100 ft
Flexing after heat test		7 days at 100 + 0 - 4°C	As in Clause 6.3.1.5.2
b. Low temperature test	6.3.2	20 hours at - 40°C	As in Clause 6.3.2.3

4. Dimensional stability. Requirements as in Clause 6.4.2.4

5. Service engineering data (not for specification purposes)

Rated capacitance	17 pF/ft
Rated velocity ratio	0.666
Rated impedance, Z_m	91 ohms
Maximum voltage for r.f. operation	4.25 kV peak
Maximum voltage for pulse operation	8.5 kV peak
Maximum voltage d.c. operation	34 kV
Weight	0.09 lb/ft
Minimum bending radius (for installation)	2 in
Minimum coiling diameter (for drums and reels)	6 in
Minimum flexing temperature	- 30°C

POWER RATING

Frequency MHz	Ambient temperature				Nominal attenuation dB/100 ft
	20°C	40°C	55°C	70°C	
	Max. power rating (watts) in air				
100	1050	700	440	200	2.14
200	735	485	305	135	3.13
300	590	390	245	110	3.92
600	400	265	165	74	5.84
1000	300	195	125	55	7.92

UNIRADIO No. 33

1. Construction

Item	Clause reference BS 2316	Details	Dimensions in inches		
			Min.	Nom.	Max.
Inner conductor	4.2	1/0.022 in p.c.w.	0.0218	0.022	0.0224
Dielectric	4.3	Polythene min. thickness 0.043 in	0.123	0.128	0.133
Outer conductor	4.4	Lead alloy sheath, min. thickness 0.025 in	0.178	0.188	0.198

2. Electrical requirements

Test	Clause reference BS 2316	Conditions	Requirements		
			Min.	Max.	Units
Voltage test on dielectric	5.3	4.0 kV r.m.s. for 1 minute.			
Insulation resistance	5.4	500 volts d.c.	750 000		Megohm. 100 ft
Resistance of inner conductor	5.5	D.C.		2.21	Ohm/100 ft
Capacitance	5.6	1000 Hz	19.5	23.0	pF/ft
Discharge test	5.8	50 Hz	2.0		kV r.m.s.
Attenuation constant	5.9	200 MHz		7.4	dB/100 ft
Velocity ratio	5.10	200 MHz	0.658	0.690	
Mean characteristic impedance, Z_m	5.11	200 MHz	68.0	74.0	ohm

3. Climatic and mechanical robustness

Test	Clause reference BS 2316	Conditions	Requirements
Bending and air pressure test	6.5	Mandrel diameter $6 \pm \frac{1}{4}$ in	As in Clause 6.5

4. Service engineering data (not for specification purposes)

Rated capacitance	22 pF/ft
Rated velocity ratio	0.669
Rated impedance, Z_m	71 ohms
Maximum voltage for r.f. operation	2.5 kV peak
Maximum voltage for pulse operation	5.0 kV peak
Maximum voltage d.c. operation	20 kV
Weight	0.08 lb/ft
Minimum bending radius (for installation)	1.5 in
Minimum coiling diameter (for drums and reels)	6 in

POWER RATING

Frequency MHz	Ambient temperature				Nominal attenuation dB/100 ft
	20°C	40°C	55°C	70°C	
	Max. power rating (watts) in air				
100	370	235	145	62	4.67
200	260	165	100	43	6.70
300	210	135	82	35	8.30
600	145	92	56	24	12.04
1000	110	70	43	18	15.92
3000	59	38	23	10	29.69

UNIRADIO No. 34

1. Construction

Item	Clause reference BS 2316	Details	Dimensions in inches		
			Min.	Nom.	Max.
Inner conductor	4.2	1/0.128 in p.c.w.	0.126	0.128	0.130
Dielectric	4.3	Polythene, min. thickness 0.236 in	0.620	0.625	0.630
Outer conductor	4.4	Braid of 0.0076 in p.c.w.	0.650	0.660	0.670
Outer protection	4.5	PVC (non-migratory grade, grey) min. thickness 0.065 in	0.790	0.810	0.830

2. Electrical requirements

Test	Clause reference BS 2316	Conditions	Requirements		
			Min.	Max.	Units
Spark test on sheath	5.2	8 kV r.m.s.			
Voltage test on dielectric	5.3	20 kV r.m.s. for 1 minute			
Insulation resistance	5.4	500 volts d.c.	750 000		Megohm/100 ft
Resistance of inner conductor	5.5	D.C.		0.065	Ohm/100 ft
Capacitance	5.6	1000 Hz	23.5	25.0	pF/ft
Discharge test	5.8	50 Hz	10.0		kV r.m.s
Attenuation constant	5.9	3000 MHz		11.0	dB/100 ft
Velocity ratio	5.10	3000 MHz	0.658	0.670	
Mean characteristic impedance, Z_m	5.11	3000 MHz	60.9	65.9	ohm
Uniformity of effective characteristic impedance Z_e	5.12	Based on a nominal impedance of 63.4 ohms			

3. Climatic and mechanical robustness

Test	Clause reference BS 2316	Conditions	Requirements
Thermal stability			
a. High temperature	6.3.1		
Contamination after heat test		7 days at 100 + 0 - 4°C	Max. increase of attenuation at 3000 MHz as in Clause 6.3.1.5.1 4.5 dB/100 ft
Flexing after heat test		7 days at 100 + 0 - 4°C	As in Clause 6.3.1.5.2
Cold bend after heat test		7 days at 100 + 0 - 4°C. 1 hour recovery immediately followed by 20 hours at -35°C	As in Clause 6.3.2.3
b. Low temperature test	6.3.2	20 hours at -40°C	As in Clause 6.3.2.3

4. Service engineering data (not for specification purposes)

Rated capacitance	24 pF/ft
Rated velocity ratio	0.664
Rated impedance, Z_m	63 ohms
Maximum voltage for r.f. operation	12.5 kV peak
Maximum voltage for pulse operation	25.0 kV peak
Maximum voltage d.c. operation	100 kV
Weight	0.3 lb/ft
Minimum bending radius (for installation)	4 in
Minimum coiling diameter (for drums and reels)	12 in
Minimum flexing temperature	-30°C

POWER RATING

Frequency MHz	Ambient temperature				Nominal attenuation dB/100 ft
	20°C	40°C	55°C	70°C	
	Max. power rating(watts) in air				
100	3900	2550	1600	730	1.00
200	2600	1700	1080	485	1.52
300	2050	1350	845	380	1.95
600	1320	870	545	245	3.05
1000	940	620	390	175	4.32
3000	435	285	180	81	9.60

UNIRADIO No. 39

1. Construction

Item	Clause reference BS 2316	Details	Dimensions in inches		
			Min.	Nom.	Max.
Inner conductor	4.2	1/0.036 in p.c.w.	0.0354	0.036	0.0366
Dielectric	4.3	Polythene, min. thickness 0.064 in	0.195	0.200	0.205
Outer conductor	4.4	Braid of 0.0076 in p.c.w.	0.225	0.235	0.245
Outer protection	4.5	PVC (general purpose, black) min. thickness 0.030 in	0.300	0.310	0.320

2. Electrical requirements

Test	Clause reference BS 2316	Conditions	Requirements		
			Min.	Max.	Units
Spark test on sheath	5.2	5 kV r.m.s.			
Voltage test on dielectric	5.3	6.0 kV r.m.s. for 1 minute			
Insulation resistance	5.4	500 volts d.c.	750 000		Megohm.100 ft
Resistance of inner conductor	5.5	D.C.		0.824	Ohm/100 ft
Capacitance	5.6	1000 Hz	21.5	23.5	pF/ft
Discharge test	5.8	50 Hz	3.0		kV r.m.s.
Attenuation constant	5.9	200 MHz		4.0	dB/100 ft
Velocity ratio	5.10	200 MHz	0.658	0.690	
Mean characteristic impedance, Z_m	5.11	200 MHz	66.2	72.2	ohm

3. Climatic and mechanical robustness

Test	Clause reference BS 2316	Conditions	Requirements
Thermal stability			
a. High temperature	6.3.1		
Flexing after heat test		7 days at 100 + 0 - 4°C	As in Clause 6.3.1.5.2
b. Low temperature test	6.3.2	20 hours at - 40°C	As in Clause 6.3.2.3

4. Dimensional stability. Requirements as in Clause 6.4.2.4

5. Service engineering data (not for specification purposes)

Rated capacitance	23 pF/ft
Rated velocity ratio	0.674
Rated impedance, Z	69 ohms
Maximum voltage for r.f. operation	4 kV peak
Maximum voltage for pulse operation	7.75 kV peak
Maximum voltage d.c. operation	30 kV
Weight	0.06 lb/ft
Minimum bending radius (for installation)	1.75 in
Minimum coiling diameter (for drums and reels)	5 in
Minimum flexing temperature	- 30°C

POWER RATING

Frequency MHz	Ambient temperature				Nominal attenuation dB/100 ft
	20°C	40°C	55°C	70°C	
	Max. power rating (watts)in air				
100	885	575	360	160	2.50
200	610	400	250	110	3.63
300	490	320	200	88	4.54
600	335	220	135	60	6.72
1000	250	165	100	45	9.05

UNIRADIO No. 41

1. Construction

Item	Clause reference BS 2316	Details	Dimensions in inches		
			Min.	Nom.	Max.
Inner conductor	4.2	1/0.022 in high resistance wire, e.g. 'rhometal'	0.0216	0.022	0.0224
Dielectric	4.3	Polythene, min. thickness 0.043 in	0.123	0.128	0.133
Outer conductor	4.4	Braid of 0.006 in p.c.w.	0.145	0.155	0.165
Outer protection	4.5	PVC (general purpose, black) min thickness 0.025 in	0.220	0.230	0.240

2. Electrical requirements

Test	Clause reference BS 2316	Conditions	Requirements		
			Min.	Max.	Units
Spark test on sheath	5.2	5 kV r.m.s.			
Voltage test on dielectric	5.3	4.0 kV r.m.s. for 1 minute			
Insulation resistance	5.4	500 volts d.c.	750 000		Megohm.100 ft
Resistance of inner conductor.	5.5	D.C.	100	125	Ohm/100 ft
Capacitance	5.6	1000 Hz	19.5	23.0	pF/ft
Discharge test	5.8	50 Hz	2.0		kV r.m.s.
Attenuation constant	5.9	200 MHz 3000 MHz	275 575	375 675	dB/100 ft
Velocity ratio	5.10	200 MHz 3000 MHz	0.58 0.65	0.65 0.69	
Mean characteristic impedance, Z_m	5.11	200 MHz	69.1	74.9	ohm

3. Climatic and mechanical robustness

Test	Clause reference BS 2316	Conditions	Requirements
Thermal stability			
a. High temperature Flexing after heat test	6.3.1.	7 days at 100 + 0 - 4°C	As in Clause 6.3.1.5.2
b. Low temperature test	6.3.2	20 hours at -40°C	As in Clause 6.3.2.3

4. Service engineering data (not for specification purposes)

Rated capacitance	21 pF/ft
Rated velocity ratio	0.67
Rated impedance, Z_m	72 ohms
Maximum voltage for r.f. operation	2.5 kV peak
Maximum voltage for pulse operation	5.0 kV peak
Maximum voltage d.c. operation	20.0 kV
Weight	0.03 lb/ft
Minimum bending radius (for installation)	1.25 in
Minimum coiling diameter (for drums and reels)	4 in
Minimum flexing temperature	-30°C

POWER RATING

Frequency MHz	Ambient temperature				Nominal attenuation dB/100 ft
	20°C	40°C	55°C	70°C	
	Max.power rating (watts) in air				
100	6.7	4.6	3.1	1.5	218
200	4.8	3.3	2.2	1.1	316
600	3.5	2.4	1.6	0.8	449
3000	2.4	1.7	1.1	0.6	625

UNIRADIO No. 42

1. Construction

Item	Clause reference BS 2316	Details	Dimensions in inches		
			Min.	Nom.	Max.
Inner core		Polythene, solid or reinforced with yarn or fibre	0.173	0.178	0.183
Inner conductor	4.2	Braid of 0.006 in p.c.w.	0.200	0.205	0.210
Dielectric	4.3	Polythene, min. thickness 0.035 in	0.280	0.285	0.290
Outer conductor	4.4	Braid of 0.0076 in p.c.w.	0.310	0.320	0.330
Outer protection	4.5	PVC (general purpose, black) min. thickness 0.034 in	0.395	0.405	0.415

2. Electrical requirements

Test	Clause reference BS 2316	Conditions	Requirements		
			Min.	Max.	Units
Spark test on sheath	5.2	5 kV r.m.s.			
Voltage test on dielectric	5.3	4.5 kV r.m.s. for 1 minute			
Insulation resistance	5.4	500 volts d.c.	750 000		Megohm.100 ft
Resistance of inner conductor	5.5	D.C.		0.350	Ohm/100 ft
Capacitance	5.6	1000 Hz	90	125	pF/ft
Attenuation constant	5.9	5 MHz		1.63	dB/100 ft
Velocity ratio	5.10	200 MHz	0.640	0.680	
Mean characteristic impedance, Z_m	5.11	200 MHz	13.5	15.5	ohm

3. Climatic and mechanical robustness

Test	Clause reference BS 2316	Conditions	Requirements
Thermal stability			
a. High temperature Flexing after heat test	6.3.1	7 days at 100 + 0 - 4°C	As in Clause 6.3.1.5.2
b. Low temperature test	6.3.2	20 hours at -40°C	As in Clause 6.3.2.3

4. Service engineering data (not for specification purposes)

Rated capacitance	108 pF/ft
Rated velocity ratio	0.660
Rated impedance, Z_m	15 ohms
Maximum voltage for r.f. operation	2.7 kV peak
Maximum voltage for pulse operation	5.5 kV peak
Maximum voltage d.c. operation	22 kV
Weight	0.12 lb/ft
Minimum bending radius (for installation)	2 in
Minimum coiling diameter (for drums and reels)	6 in
Minimum flexing temperature	- 30°C

POWER RATING

Frequency MHz	Ambient temperature				Nominal attenuation dB/100 ft
	20°C	40°C	55°C	70°C	
	Max.power rating (watts) in air				
1	8000	5150	3150	1350	0.49
5	3200	2050	1250	550	1.22
20	1550	1000	615	265	2.52

UNIRADIO No. 43

1. Construction

Item	Clause reference BS 2316	Details	Dimensions in inches		
			Min.	Nom.	Max.
Inner conductor	4.2	1/0.032 in p.c.w.	0.0314	0.032	0.0326
Dielectric	4.3	Polythene, minimum thickness 0.035 in	0.111	0.116	0.121
Outer conductor	4.4	Braid of 0.006 in p.c.w.	0.133	0.143	0.153
Outer protection	4.5	PVC (general purpose, black) minimum thickness 0.020 in	0.190	0.195	0.200

2. Electrical requirements

Test	Clause reference BS 2316	Conditions	Requirements		
			Min.	Max.	Units
Spark test on sheath	5.2	5 kV r.m.s.			
Voltage test on dielectric	5.3	4.0 kV r.m.s. for 1 minute			
Insulation resistance	5.4	500 volts d.c.	750 000		Megohm. 100 ft
Resistance of inner conductor	5.5	D.C.		1.043	Ohm/100 ft
Capacitance	5.6	1000 Hz	26.0	32.0	pF/ft
Discharge test	5.8	50 Hz	2.0		kV r.m.s
Attenuation constant	5.9	200 MHz		6.3	dB/100 ft
Velocity ratio	5.10	200 MHz	0.658	0.690	
Mean characteristic impedance, Z_m	5.11	200 MHz	50	54	ohm

3. Climatic and mechanical robustness

Test	Clause reference BS 2316	Conditions	Requirements
Thermal stability			
a. High temperature	6.3.1		
Contamination after heat test		7 days at 100 + 0 - 4°C	Max. increase of attenuation at 3000 MHz as in Clause 6.3.1.5.1 46 dB/100 ft
Flexing after heat test		7 days at 100 + 0 - 4°C	As in Clause 6.3.1.5.2
b. Low temperature test	6.3.2	20 hours at - 40°C	As in Clause 6.3.2.3

4. Dimensional stability. Requirements as in Clause 6.4.2.4

5. Service engineering data (not for specification purposes)

Rated capacitance	29 pF/ft
Rated velocity ratio	0.674
Rated impedance, Z_m	52 ohms
Maximum voltage for r.f. operation	2.75 kV peak
Maximum voltage for pulse operation	5.25 kV peak
Maximum voltage d.c. operation	21 kV
Weight	0.03 lb/ft
Minimum bending radius (for installation)	1 in
Minimum coiling diameter (for drums and reels)	3 in
Minimum flexing temperature	- 30°C

POWER RATING

Frequency MHz	Ambient temperature				Nominal attenuation dB/100 ft
	20°C	40°C	55°C	70°C	
	Max.power rating (watts) in air				
100	440	285	175	76	3.95
200	305	200	120	53	5.69
300	250	160	98	42	7.06
600	170	110	68	29	10.3
1000	130	83	51	22	13.6

UNIRADIO No. 45

1. Construction

Item	Clause reference BS 2316	Details	Dimensions in inches		
			Min.	Nom.	Max.
Inner conductor	4.2	1/0.029 in p.c.w.	0.0285	0.029	0.0295
Dielectric	4.3	Polythene, min. thickness 0.110 in	0.280	0.285	0.290
Outer conductor	4.4	Lead alloy sheath, min. thickness 0.045 in	0.390	0.400	0.410

2. Electrical requirements

Test	Clause reference BS 2316	Conditions	Requirements		
			Min.	Max.	Units
Voltage test on dielectric	5.3	6.5 kV r.m.s. for 1 minute			
Insulation resistance	5.4	500 volts d.c.	750 000		Megohm.100ft
Resistance of inner conductor	5.5	D.C.		1.27	Ohm/100 ft
Capacitance	5.6	1000 Hz	15.5	17.5	pF/ft
Discharge test	5.8	50 Hz	3.25		kV r.m.s
Attenuation constant	5.9	200 MHz		3.6	dB/100 ft
Velocity ratio	5.10	200 MHz	0.658	0.675	
Mean characteristic impedance, Z_m	5.11	200 MHz	87.3	94.3	ohm

3. Climatic and mechanical robustness

Test	Clause reference BS 2316	Conditions	Requirements
Bending and air pressure test	6.5	Mandrel diameter $12 \pm \frac{1}{2}$ in	As in Clause 6.5

4. Service engineering data (not for specification purposes)

Rated capacitance	17 pF/ft
Rated velocity ratio	0.666
Rated impedance, Z_m	91 ohms
Maximum voltage for r.f. operation	4.25 kV pea
Maximum voltage for pulse operation	8.5 kV peak
Maximum voltage d.c. operation	34 kV
Weight	0.34 lb/ft
Minimum bending radius (for installation)	3.25 in
Minimum coiling diameter (for drums and reels)	12 in

POWER RATING

Frequency MHz	Ambient temperature				Nominal attenuation dB/100 ft
	20°C	40°C	55°C	70°C	
	Max.power rating (watts) in air				
100	1100	700	435	190	2.41
200	745	485	300	135	3.50
300	600	390	240	105	4.37
600	410	265	165	73	6.49
1000	305	200	125	54	8.75

UNIRADIO No. 47

1. Construction

Item	Clause reference BS 2316	Details	Dimensions in inches		
			Min.	Nom.	Max.
Inner conductor	4.2	19/0.044 in p.c.w.	0.2167	0.220	0.2233
Dielectric	4.3	Polythene, min. thickness 0.180 in	0.620	0.625	0.630
Outer conductor	4.4	Braid of 0.0076 in p.c.w.	0.650	0.660	0.670
Outer protection	4.5	PVC (general purpose, black) min. thickness 0.065 in	0.790	0.810	0.830

2. Electrical requirements

Test	Clause reference BS 2316	Conditions	Requirements		
			Min.	Max.	Units
Spark test on sheath	5.2	8 kV r.m.s.			
Voltage test on dielectric	5.3	21 kV r.m.s. for 1 minute			
Insulation resistance	5.4	500 volts d.c.	750 000		Megohm. 100 ft
Resistance of inner conductor	5.5	D.C.		0.03	Ohm/100 ft
Capacitance	5.6	1000 Hz	34.0	37.5	pF/ft
Discharge test	5.8	50 Hz	10.5		kV r.m.s.
Attenuation constant	5.9	200 MHz		2.1	dB/100 ft
Velocity ratio	5.10	200 MHz	0.658	0.670	
Mean characteristic impedance, Z_m	5.11	200 MHz	41.5	44.5	ohm

3. Climatic and mechanical robustness

Test	Clause reference BS 2316	Conditions	Requirements
Thermal stability			
a. High temperature	6.3.1		
Contamination after heat test		7 days at 100 + 0 - 4°C	Max. increase of attenuation at 3000 MHz as in Clause 6.3.1.5.1 12 dB/100 ft
Flexing after heat test		7 days at 100 + 0 - 4°C	As in Clause 6.3.1.5.2
b. Low temperature test	6.3.2	20 hours at -40°C	As in Clause 6.3.2.3

4. Service engineering data (not for specification purposes)

Rated capacitance	36 pF/ft
Rated velocity ratio	0.664
Rated impedance, Z_m	43 ohms
Maximum voltage for r.f. operation	10.25 kV peak
Maximum voltage for pulse operation	20.5 kV peak
Maximum voltage d.c. operation	82 kV
Weight	0.45 lb/ft
Minimum bending radius (for installation)	4 in
Minimum coiling diameter (for drums and reels)	12 in
Minimum flexing temperature	- 30°C

POWER RATING

Frequency MHz	Ambient temperature				Nominal attenuation dB/100 ft
	20°C	40°C	55°C	70°C	
	Max. power rating (watts) in air				
100	3650	2400	1500	665	1.23
200	2450	1600	1000	450	1.83
300	1950	1250	790	355	2.34
600	1250	830	520	230	3.60
1000	915	600	375	165	5.02

UNIRADIO No. 54

1. Construction

Item	Clause reference BS 2316	Details	Dimensions in inches		
			Min.	Nom.	Max.
Inner conductor	4.2	7/0.0076 in p.c.w.	0.0222	0.0228	0.0234
Dielectric	4.3	Polythene, min. thickness 0.043 in	0.123	0.128	0.133
Outer conductor	4.4	Braid 0.006 in p.c.w.	0.145	0.155	0.165
Outer protection	4.5	Inter-sheath PVC (general purpose, black) min. thickness 0.025 in	0.205	0.215	0.225
		Braid 0.006 in p.c.w.	0.232	0.242	0.252
		PVC (general purpose, black) min. thickness 0.030 in	0.315	0.325	0.335

2. Electrical requirements

Test	Clause reference BS 2316	Conditions	Requirements		
			Min.	Max.	Units
Spark test on sheath	5.2	5 kV r.m.s.			
Spark test on inter-sheath	5.2	5 kV r.m.s.			
Voltage test on dielectric	5.3	3.5 kV r.m.s. for 1 minute			
Voltage test on inter-sheath	5.3	1.0 kV r.m.s. for 1 minute			
Insulation resistance	5.4	500 volts d.c.	750 000		Megohm-100 ft
Resistance of inner conductor	5.5	D.C.		2.71	Ohm/100 ft
Capacitance	5.6	1000 Hz	19.5	23.0	pF/ft
Discharge test	5.8	50 Hz	1.75		kV r.m.s.
Attenuation constant	5.9	200 MHz		7.3	dB/100 ft
Velocity ratio	5.10	200 MHz	0.658	0.690	
Mean characteristic impedance, Z_m	5.11	200 MHz	69.4	75.4	ohm

3. Climatic and mechanical robustness

Test	Clause reference BS 2316	Conditions	Requirements
Thermal stability			
a. High temperature Flexing after heat test	6.3.1	7 days at 100 + 0 - 4°C	As in Clause 6.3.1.5.2
b. Low temperature test	6.3.2	20 hours at -40°C	As in Clause 6.3.2.3

4. Dimensional stability. Requirements as in Clause 6.4.2.4

5. Service engineering data (not for specification purposes)

Rated capacitance	22 pF/ft
Rated velocity ratio	0.669
Rated impedance, Z_m	72 ohms
Maximum voltage for r.f. operation	1.8 kV peak
Maximum voltage for pulse operation	3.6 kV peak
Maximum voltage d.c. operation	14 kV
Weight	0.08 lb/ft
Minimum bending radius (for installation)	1.75 in
Minimum coiling diameter (for drums and reels)	5 in
Minimum flexing temperature	- 30°C

POWER RATING

Frequency MHz	Ambient temperature				Nominal attenuation dB/100 ft
	20°C	40°C	55°C	70°C	
	Max. power rating (watts) in air				
100	415	270	170	77	4.62
200	290	190	120	54	6.63
300	235	155	96	43	8.21
600	160	105	67	30	11.91
1000	125	81	51	22	15.75

UNIRADIO No. 55

1. Construction

Item	Clause reference BS 2316	Details	Dimensions in inches		
			Min.	Nom.	Max.
Inner conductor	4.2	1/0.022 in high resistance wire, e.g., manganin	0.0216	0.022	0.0224
Dielectric	4.3	Polythene, min. thickness 0.043 in	0.123	0.128	0.133
Outer conductor	4.4	Double braid of 0.006 in p.c.w.	0.178	0.188	0.198
Outer protection	4.5	PVC (general purpose, black) min. thickness 0.027 in	0.245	0.255	0.265

2. Electrical requirements

Test	Clause reference BS 2316	Conditions	Requirements		
			Min.	Max.	Units
Spark test on sheath	5.2	5 kV r.m.s.			
Voltage test on dielectric	5.3	4.0 kV r.m.s. for 1 minute			
Insulation resistance	5.4	500 volts d.c.	750 000		Megohm. 100 ft
Resistance of inner conductor	5.5	D.C.	50.6	55.9	Ohm/100 ft
Capacitance	5.6	1000 Hz	19.5	23.0	pF/ft
Discharge test	5.8	50 Hz	2.0		kV r.m.s.
Attenuation constant	5.9	200 MHz	18.5	22.5	dB/100 ft
Velocity ratio	5.10	200 MHz	0.658	0.690	
Mean characteristic impedance, Z_m	5.11	200 MHz	68	74	ohm

3. Climatic and mechanical robustness

Test	Clause reference BS 2316	Conditions	Requirements
Low temperature test	6.3.2	20 hours at -40°C	As in Clause 6.3.2.3

4. Service engineering data (not for specification purposes)

Rated capacitance	21 pF/ft
Rated velocity ratio	0.669
Rated impedance, Z_m	71 ohms
Maximum voltage for r.f. operation	2.5 kV peak
Maximum voltage for pulse operation	5.0 kV peak
Maximum voltage d.c. operation	20 kV
Weight	0.04 lb/ft
Minimum bending radius (for installation)	1.25 in
Minimum coiling diameter (for drums and reels)	4 in
Minimum flexing temperature	-30°C

POWER RATING

Frequency MHz	Ambient temperature				Nominal attenuation dB/100 ft
	20°C	40°C	55°C	70°C	
	Max. power rating (watts) in air				
100	100	71	47	23	14.5
200	74	51	34	17	20.5
600	41	29	19	10	35.6

UNIRADIO No. 56

1. Construction

Item	Clause reference BS 2316	Details	Dimensions in inches		
			Min.	Nom.	Max.
Inner conductor	4.2	1/0.022 in p.c.w.	0.0216	0.022	0.0224
Dielectric	4.3	Polythene, min. thickness 0.043 in	0.123	0.128	0.133
Outer conductor	4.4	Braid of 0.006 in silver-plated copper wire	0.145	0.155	0.165
Outer protection	4.5	Polythene, with 2% channel black, min. thickness 0.030 in	0.220	0.230	0.240

2. Electrical requirements

Test	Clause reference BS 2316	Conditions	Requirements		
			Min.	Max.	Units
Spark test on sheath	5.2	5 kV r.m.s.			
Voltage test on dielectric	5.3	4.0 kV r.m.s. for 1 minute			
Insulation resistance	5.4	500 volts d.c.	750 000		Megohm. 100 ft
Resistance of inner conductor	5.5	D.C.		2.21	Ohm/100 ft
Capacitance	5.6	1000 Hz	19.5	23.0	pF/ft
Discharge test	5.8	50 Hz	2.0		kV r.m.s.
Attenuation constant	5.9	200 MHz		6.0	dB/100 ft
Velocity ratio	5.10	200 MHz	0.658	0.690	
Mean characteristic impedance, Z_m	5.11	200 MHz	68.5	74.5	ohm

3. Climatic and mechanical robustness

Test	Clause reference BS 2316	Conditions	Requirements
Low temperature test	6.3.2	20 hours at -50°C	As in Clause 6.3.2.3

4. Dimensional stability. Requirements as in Clause 6.4.2.4

5. Service engineering data (not for specification purposes)

Rated capacitance	22 pF/ft
Rated velocity ratio	0.659
Rated impedance, Z_m	71 ohms
Maximum voltage for r.f. operation	2.5 kV peak
Maximum voltage for pulse operation	5.0 kV peak
Maximum voltage d.c. operation	20 kV
Weight	0.04 lb/ft
Minimum bending radius (for installation)	1.25 in
Minimum coiling diameter (for drums and reels)	4 in
Minimum flexing temperature	-50°C

POWER RATING

Frequency MHz	Ambient temperature				Nominal attenuation dB/100 ft
	20°C	40°C	55°C	70°C	
	Max. power rating (watts) in air				
100	500	325	200	88	3.74
200	350	225	140	61	5.38
300	280	185	115	49	6.68
600	195	125	78	34	9.74
1000	145	95	59	25	12.95

UNIRADIO No. 57

1. Construction

Item	Clause reference BS 2316	Details	Dimensions in inches		
			Min.	Nom.	Max.
Inner conductor	4.2	1/0.044 in p.c.w.	0.0433	0.044	0.0447
Dielectric	4.3	Polythene, minimum thickness 0.096 in	0.280	0.285	0.290
Outer conductor	4.4	Braid of 0.0076 in p.c.w.	0.310	0.320	0.330
Outer protection	4.5	PVC (general purpose, black) minimum thickness 0.034 in	0.395	0.405	0.415

2. Electrical requirements

Test	Clause reference BS 2316	Conditions	Requirements		
			Min.	Max.	Units
Spark test on sheath	5.2	5 kV r.m.s.			
Voltage test on dielectric	5.3	8.0 kV r.m.s. for 1 minute			
Insulation resistance	5.4	500 volts d.c.	750 000		Megohm.100 ft
Resistance of inner conductor	5.5	D.C.		0.557	Ohm/100 ft
Capacitance	5.6	1000 Hz	20.0	21.2	pF/ft
Discharge test	5.8	50 Hz	4.0		kV r.m.s.
Attenuation constant	5.9	200 MHz		3.0	dB/100 ft
Velocity ratio	5.10	200 MHz	0.658	0.675	
Mean characteristic impedance, Z_m	5.11	200 MHz	72.0	78.0	ohm

3. Climatic and mechanical robustness

Test	Clause reference BS 2316	Conditions	Requirements
Thermal stability			
a. High temperature	6.3.1		
Contamination after heat test		7 days at 100 + 0 - 4°C	Max. increase of attenuation at 3000 MHz as in Clause 6.3.1.5.1 22.5 dB/100 ft
Flexing after heat test		7 days at 100 + 0 - 4°C	As in Clause 6.3.1.5.2
b. Low temperature test	6.3.2	20 hours at -40°C	As in Clause 6.3.2.3

4. Dimensional stability. Requirements as in Clause 6.4.2.4

5. Service engineering data (not for specification purposes)

Rated capacitance.	20.6 pF/ft
Rated velocity ratio	0.666
Rated impedance, Z_m	75 ohms
Maximum voltage for r.f. operation	5.0 kV peak
Maximum voltage for pulse operation	10.5 kV peak
Maximum voltage d.c. operation	42.0 kV
Weight	0.1 lb/ft
Minimum bending radius (for installation)	2 in
Minimum coiling diameter (for drums and reels)	6 in
Minimum flexing temperature	- 30°C

POWER RATING

Frequency MHz	Ambient temperature				Nominal attenuation dB/100 ft
	20°C	40°C	55°C	70°C	
	Max. power rating (watts) in air				
100	1350	875	550	245	1.87
200	915	600	375	170	2.74
300	730	480	300	135	3.45
600	495	325	200	90	5.17
1000	365	240	150	67	7.05

UNIRADIO No. 58

1. Construction

Item	Clause reference BS 2316	Details	Dimensions in inches		
			Min.	Nom.	Max.
Inner conductor	4.2	1/0.044 in p.c.w.	0.0433	0.044	0.0447
Dielectric	4.3	Polythene, minimum thickness 0.096 in	0.280	0.285	0.290
Outer conductor	4.4	Lead alloy sheath, minimum thickness 0.046 in	0.390	0.400	0.410

2. Electrical requirements

Test	Clause reference BS 2316	Conditions	Requirements		
			Min.	Max.	Units
Voltage test on dielectric	5.3	8.0 kV r.m.s. 1 minute			
Insulation resistance	5.4	500 volts d.c.	750 000		Megohm.100 ft
Resistance of inner conductor	5.5	D.C.		0.557	Ohm/100 ft
Capacitance	5.6	1000 Hz	20.0	21.2	pF/ft
Discharge test	5.8	50 Hz	4.0		kV r.m.s.
Attenuation constant	5.9	200 MHz		3.5	dB/100 ft
Velocity ratio	5.10	200 MHz	0.658	0.675	
Mean characteristic impedance, Z_m	5.11	200 MHz	72	78	ohm

3. Climatic and mechanical robustness

Test	Clause reference B.S. 2316	Conditions	Requirements
Bending and air pressure test	6.5	Mandrel diameter $12 \pm \frac{1}{2}$ in	As in Clause 6.5

4. Service engineering data (not for specification purposes)

Rated capacitance	20.6 pF/ft
Rated velocity ratio	0.666
Rated impedance, Z_m	75 ohms
Maximum voltage for r.f. operation	5.25 kV peak
Maximum voltage for pulse operation	10.5 kV peak
Maximum voltage d.c. operation	42 kV
Weight	0.34 lb/ft
Minimum bending radius (for installation)	3.5 in
Minimum coiling diameter (for drums and reels)	12 in

POWER RATING

Frequency MHz	Ambient temperature				Nominal attenuation dB/100 ft
	20°C	40°C	55°C	70°	
	Max. power rating (watts) in air				
100	1200	795	490	215	2.2
200	845	545	340	150	3.2
300	675	440	270	120	4.0
600	460	295	185	80	6.0
1000	340	220	135	60	8.1

UNIRADIO No. 59

1. Construction

Item	Clause reference BS 2316	Details	Dimensions in inches		
			Min.	Nom.	Max.
Inner conductor	4.2	1/0.044 in p.c.w.	0.0433	0.044	0.0447
Dielectric	4.3	Polythene, minimum thickness 0.114 in	0.282	0.285	0.288
Outer conductor	4.4	Braid of 0.0076 in p.c.w.	0.310	0.320	0.330
Outer protection	4.5	Polythene with 2% channel black, minimum thickness 0.034 in	0.395	0.405	0.415

2. Electrical requirements

Test	Clause reference BS 2316	Conditions	Requirements		
			Min.	Max.	Units
Spark test on sheath	5.2	5 kV r.m.s.			
Voltage test on dielectric	5.3	8.0 kV r.m.s. for 1 minute			
Insulation resistance	5.4	500 volts d.c.	750 000		Megohm/100 ft
Resistance of inner conductor	5.5	D.C.		0.557	Ohm/100 ft
Capacitance	5.6	1000 Hz	20.0	21.2	pF/ft
Discharge test	5.8	50 Hz	4.0		kV r.m.s.
Attenuation constant	5.9	3000 MHz		15.9	dB/100 ft
Velocity ratio	5.10	3000 MHz	0.658	0.670	
Mean characteristic impedance, Z_m	5.11	3000 MHz	72	78	ohm
Uniformity of effective characteristic impedance Z_e	5.12	Based on nominal impedance of 75 ohm			

3. Climatic and mechanical robustness

Test	Clause reference BS 2316	Conditions	Requirements
Low temperature test	6.3.2	20 hours at -50°C	As in Clause 6.3.2.3

4. Dimensional stability. Requirements as in Clause 6.4.2.4

5. Service engineering data (not for specification purposes)

Rated capacitance	20.6 pF/ft
Rated velocity ratio	0.664
Rated impedance, Z_m	75 ohms
Maximum voltage for r.f. operation	5.0 kV peak
Maximum voltage for pulse operation	10.5 kV peak
Maximum voltage d.c. operation	42 kV
Weight	0.09 lb/ft
Minimum bending radius (for installation)	2 in
Minimum coiling diameter (for drums and reels)	6 in
Minimum flexing temperature	-50°C

POWER RATING

Frequency MHz	Ambient temperature				Nominal attenuation dB/100 ft
	20°C	40°C	55°C	70°C	
	Max. power rating (watts) in air				
100	1400	920	575	255	1.9
200	970	635	395	175	2.8
300	775	506	315	140	3.5
600	520	340	215	94	5.2
1000	385	255	160	70	7.1
3000	195	130	79	35	14.4

UNIRADIO No. 60

1. Construction

Item	Clause reference BS 2316	Details	Dimensions in inches		
			Min.	Nom.	Max.
Inner conductor	4.2	1/0.044 in p.c.w.	0.0433	0.044	0.0447
Dielectric	4.3	Polythene, minimum thickness 0.114 in	0.282	0.285	0.288
Outer conductor	4.4	Inner braid of silver-plated copper wires 0.0076 in diameter Outer braid of silver-plated copper wires 0.0076 in diameter	0.351	0.361	0.371
Outer protection	4.5	PVC (non-migratory grade, grey) minimum thickness 0.040 in	0.450	0.460	0.470

2. Electrical requirements

Test	Clause reference BS 2316	Conditions	Requirements		
			Min.	Max.	Units
Spark test on sheath	5.2	8 kV r.m.s.			
Voltage test on dielectric	5.3	8.0 kV r.m.s. for 1 minute			
Insulation resistance	5.4	500 volts d.c.	750 000		Megohm.100 ft
Resistance of inner conductor	5.5	D.C.		0.557	Ohm/100ft
Capacitance	5.6	1000 Hz	20.0	21.2	pF/ft
Discharge test	5.8	50 Hz	4.0		kV r.m.s.
Attenuation constant	5.9	3000 MHz		15.9	dB/100 ft
Velocity ratio	5.10	3000 MHz	0.658	0.670	
Mean characteristic impedance, Z_m	5.11	3000 MHz	72	78	ohm
Uniformity of effective characteristic impedance, Z_e	5.12	Based on nominal impedance of 75 ohm			

3. Climatic and mechanical robustness

Test	Clause reference BS 2316	Conditions	Requirements
Thermal stability			
a. High temperature	6.3.1		
Contamination after heat test		7 days at 100 + 0 - 4°C	Max. increase of attenuation at 3000 MHz as in Clause 6.3.1.5.1 6 dB/100 ft
Flexing after heat test		7 days at 100 + 0 - 4°C	As in Clause 6.3.1.5.2
Cold bend after heat test		7 days at 100 + 0 - 4°C.	As in Clause 6.3.2.3
		1 hour recovery immediately followed by 20 hours at - 35°C	
b. Low temperature test	6.3.2	20 hours at - 40°C	As in Clause 6.3.2.3

4. Dimensional stability. Requirements as in Clause 6.4.2.4

5. Service engineering data (not for specification purposes)

Rated capacitance	20.6 pF/ft
Rated velocity ratio	0.664
Rated impedance, Z_m	75 ohms
Maximum voltage for r.f. operation	5 kV peak
Maximum voltage for pulse operation	10.5 kV peak
Maximum voltage d.c. operation	42 kV
Weight	0.13 lb/ft
Minimum bending radius (for installation)	2.25 in
Minimum coiling diameter (for drums and reels)	7 in
Minimum flexing temperature	- 30°C

POWER RATING

Frequency MHz	Ambient temperature				Nominal attenuation dB/100 ft
	20°C	40°C	55°C	70°C	
	Max. power rating (watts) in air				
100	1400	930	585	265	1.9
200	975	640	400	180	2.7
300	780	510	320	145	3.5
600	525	345	215	97	5.2
1000	390	255	160	72	7.1
3000	195	130	81	36	14.4

UNIRADIO No. 63

1. Construction

Item	Clause reference BS 2316	Details	Dimensions in inches		
			Min.	Nom.	Max.
Inner conductor	4.2	1/0.172 in p.c.w.	0.170	0.172	0.174
Dielectric	4.3	Polythene helical tape spacer	0.620	0.625	0.630
Outer conductor	4.4	Aluminium tube	0.725	0.735	0.745
Outer protection	4.5	PVC (general purpose, black) minimum thickness 0.048 in	0.835	0.855	0.875

2. Electrical requirements

Test	Clause reference BS 2316	Conditions	Requirements		
			Min.	Max.	Units
Spark test on sheath	5.2	8 kV r.m.s.			
Voltage test on dielectric	5.3	3 kV r.m.s. for 1 minute			
Insulation resistance	5.4	500 volts d.c.	750 000		Megohm.100 ft
Resistance of inner conductor	5.5	D.C.		0.0369	Ohm/100 ft
Capacitance	5.6	1000 Hz	13.8	14.6	pF/ft
Attenuation constant	5.9	3000 MHz		3.8	dB/100 ft
Velocity ratio	5.10	200 MHz	0.945	0.965	
Mean characteristic impedance, Z_m	5.11	200 MHz	73.5	76.5	ohm

3. Climatic and mechanical robustness

Test	Clause reference BS 2316	Conditions	Requirements
Bending and air pressure test	6.5	Mandrel diameter 63 ± 3 in	As in Clause 6.5

4. Service engineering data (not for specification purposes)

Rated capacitance	14.0 pF/ft
Rated velocity ratio	0.960
Rated impedance, Z_m	75 ohms
Maximum voltage for r.f. operation	2.1 kV peak
Maximum voltage for pulse operation	2.1 kV peak
Maximum voltage d.c. operation	2.1 kV
Weight	0.32 lb/ft
Minimum bending radius (for installation)	11 in
Minimum coiling diameter (for drums and reels)	48 in

POWER RATING

Frequency MHz	Ambient temperature				Nominal attenuation dB/100 ft
	20°C	35°C	40°C	55°C	
	Max. power rating (watts) in air				
100	4100	2900	2500	1500	0.48
200	2850	2000	1750	1050	0.69
300	2300	1600	1400	850	0.85
600	1500	1050	935	555	1.3
1000	1150	820	715	425	1.7
3000	595	420	365	215	3.3

UNIRADIO No. 64

1. Construction

Item	Clause reference BS 2316	Details	Dimensions in inches		
			Min.	Nom.	Max.
Inner conductor	4.2	1/0.0253 in copper covered steel wire Type 2	0.0248	0.0253	0.0258
Dielectric	4.3	Composite, a helical thread of polythene in a polythene tube	0.280	0.285	0.290
Outer conductor	4.4	Braid of 0.0076 in p.c.w.	0.310	0.320	0.330
Outer protection	4.5	PVC (general purpose, black) minimum thickness 0.034 in	0.395	0.405	0.415

2. Electrical requirements

Test	Clause reference BS 2316	Conditions	Requirements		
			Min.	Max.	Units
Spark test on sheath	5.2	5 kV r.m.s.			
Voltage test on dielectric	5.3	1 kV r.m.s. for 1 minute			
Insulation resistance	5.4	500 volts d.c.	750 000		Megohm.100 ft
Resistance of inner conductor	5.5	D.C.		5.83	Ohm/100 ft
Capacitance	5.6	1000 Hz	8.6	10.8	pF/ft
Attenuation constant	5.9	200 MHz		4.3	dB/100 ft
Velocity ratio	5.10	200 MHz	0.810	0.890	
Mean characteristic impedance, Z_m	5.11	200 MHz	120	130	ohm

3. Climatic and mechanical robustness

Test	Clause reference BS 2316	Conditions	Requirements
Capacitance stability	6.2.1	4 to 8 hours at $75 \pm 2^{\circ}\text{C}$. 4 to 24 hours at standard temperature. 4 to 8 hours at $-40 \pm 2^{\circ}\text{C}$. 4 to 24 hours at standard temperature.	Capacitance change less than $1\frac{1}{8}\%$ of the initial value
Thermal stability			
a. Low temperature test	6.3.2	20 hours at -40°C	As in Clause 6.3.2.3

4. Service engineering data (not for specification purposes)

Rated capacitance	9.7 pF/ft
Rated velocity ratio	0.85
Rated impedance, Z_m	125 ohms
Maximum voltage for r.f. operation	0.7 kV peak
Maximum voltage for pulse operation	0.7 kV peak
Maximum voltage d.c. operation	0.7 kV
Weight	0.09 lb/ft
Minimum bending radius (for installation)	2 in
Minimum coiling diameter (for drums and reels)	6 in
Minimum flexing temperature	-30°C

POWER RATING

Frequency MHz	Ambient temperature				Nominal attenuation dB/100 ft
	20°C	40°C	55°C	70°C	
	Max. power rating (watts) in air				
100	424	288	188	90	1.69
200	298	202	132	63	2.43
300	242	164	107	51	3.00
600	169	114	74	35	4.33
1000	129	87	57	27	5.70
3000	71	48	31	15	10.53