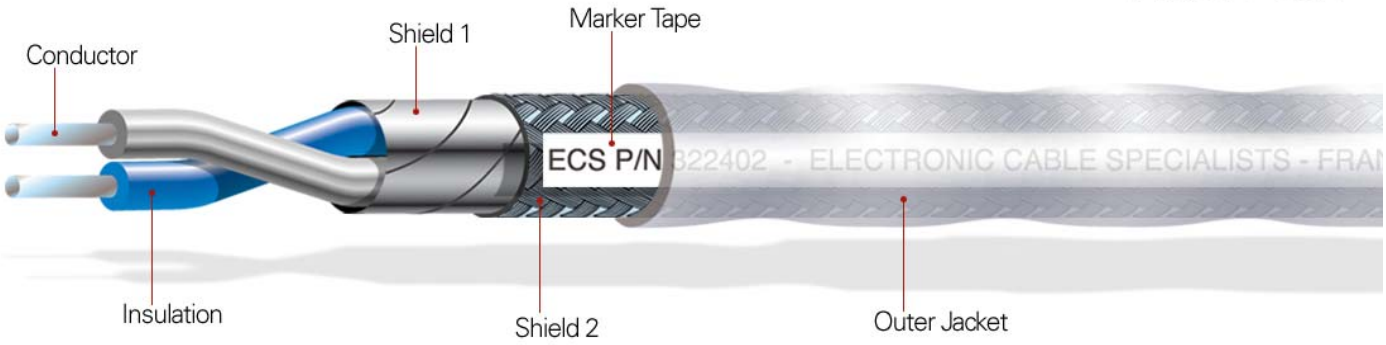
Providing complete avionics installation provisions and support for the Aviation industry since 1984.

ASCB-D Data Bus & Cept E1 Cable

P/N 322402



2 Conductors: 24 AWG stranded tin plated copper
Insulation: High temperature flouropolymer
Color Code: White, Blue
Shield 1: Aluminum/Polyester foil
Shield 2: 38 AWG tin plated copper braid
Jacket: White high temperature flouropolymer (laser markable)

Physical Characteristics
Outer Diameter: 0.204 inches nominal
Bend Radius: 1.02 inches nominal
Weight: 2.5 lbs/100 feet nominal
Temperature Range: -55° to +200° C
Skydrol Resistant: Yes

Electrical Characteristics
Impedance: 125 Ohms nominal
Capacitance: 12.0 pF/ft nominal
Velocity of Propogation: 81.5% nominal.
Attenuation: 10 MHz 2.00 dB/100 ft nominal

Applications
ASC-B or C Databus for EPIC AV-900,Sperry SP2-8000, Cept-E1

Environmental:
- ECS data bus cables are designed to meet, or exceed, burn requirements as set forth in Federal Aviation Regulations 14 CFR Part 25.869(a)(4) Amdt 25-113, Appendix F Part I(a)(3).
- They are manufactured with materials which, when subjected to flames or high temperatures, will not outgas deadly hydrogen chloride produced by conventional PVC cables.

Cage Code: 66197 • **Issue Date:** 9/21/09

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ISO9001&AS9100 Registered

MIL-DTL-17 Coaxial Cables

- including M17/176-00002 Twinaxial Data Bus Cable

Harbour Industries is a QPL approved manufacturer of high temperature, high performance coaxial cables supplied in exact accordance with the MIL-DTL-17 specification. The information referenced has been taken from the MIL-DTL-17 "slant sheets" which define complete physical and electrical characteristics for each MIL-DTL-17 part number including dimensional parameters, dielectric materials, shield constructions, VSWR, and maximum attenuation over various frequency ranges. For complete individual slant sheets, see the Defense Supply Center Columbus (DSCC) link in the Industry Links section of Harbour's website.

The Importance of VSWR Sweep Testing

When selecting a 50 ohm coaxial cable, constructions with VSWR requirements are highly recommended. Manufacturing and sweep testing cables with concern for VSWR ensures a quality cable free of spikes over the frequency range referenced on the slant sheet.

Precision PTFE Dielectrics Used

All of the PTFE dielectric coax cables listed are high temperature, high performance constructions exhibiting high dielectric strength and low capacitance in proportion to the cable's dielectric constant. Harbour manufactures all PTFE dielectric cable constructions with tolerances tighter than the MIL-DTL-17 specification to ensure uniformity of electrical characteristics, especially impedance, attenuation, and VSWR.

Constructions with PTFE Tape Wrapped Jackets

Harbour manufactures PTFE tape wrapped cables - specifically RG187 A/U, RG188 A/U, RG195 A/U, and RG196 A/U - in accordance with a previous revision of the MIL-DTL-17 specification. These constructions can withstand operating temperatures up to 250 º versus 200º C for FEP jacketed cables. PTFE tape wrapped cables are generally more flexible than their FEP jacketed counterpart. Alternative 250º constructions are also available with PFA jackets.

M17 Part	Center Conductor	Dielectric Diameter	Shield	Shield Diameter	Jacket	Overall Diameter	Bend Radius	Weight (lbs/mft)	Comments
M17/60-RG142	.037" SCCS	.116"	SPC (2)	.160"	FEP	.195"	1.0"	43.0	
M17/93-RG178	.0120" (7/.004")SCCS	.033"	SPC	.051"	FEP	.071"	0.4"	6.3	
M17/94-RG179	.0120" (7/.004")SCCS	.063"	SPC	.080"	FEP	.100"	0.4"	10.8	
M17/95-RG180	.0120" (7/.004")SCCS	.102"	SPC	.118"	FEP	.141"	0.7"	19.8	
M17/111-RG303	.037" SCCS	.116"	SPC	.136"	FEP	.170"	0.9"	31.0	
M17/112-RG304	.059" SCCS	.185"	SPC (2)	.240"	FEP	.280"	1.4"	94.0	
M17/113-RG316	.0201" (7/.0067")SCCS	.060"	SPC	.075"	FEP	.098"	0.5"	12.2	
M17/127-RG393	.094" (7/.0312") SPC	.285"	SPC (2)	.314"	FEP	.390"	2.0"	165.0	
M17/128-RG400	.0384" (19/.008") SPC	.116"	SPC (2)	.156"	FEP	.195"	1.0"	50.0	
M17/131-RG403	.0120" (7/.004")SCCS	.033"	SPC (2)	.090"	FEP (2)	.116"	0.6"	15.0	Triaxial RG-178
M17/152-00001	.0201" (7/.0067")SCCS	.060"	SPC (2)	.091"	FEP	.114"	0.6"	18.5	Double Shield RG-316
M17/176-00002	.0235" (19/.005")SPA(2)	.042"	SPA	.100"	PFA	.129"	0.6"	18.0	Twinax
RG187 A/U	.0120" (7/.004")SCCS	.063"	SPC	.079"	PTFE	.100"	0.5"	10.0	Tape Wrapped Jacket
RG188 A/U	.0201" (7/.0067")SCCS	.060"	SPC	.080"	PTFE	.100"	0.5"	11.0	Tape Wrapped Jacket
RG195 A/U	.0129" (7/.004")SCCS	.102"	SPC	.117"	PTFE	.141"	0.7"	18.0	Tape Wrapped Jacket
RG196 A/U	.0120" (7/.004")SCCS	.034"	SPC	.050"	PTFE	.067"	0.4"	6.0	Tape Wrapped Jacket

MIL-DTL-17 Coaxial Cables

- including M17/176-00002 Twinaxial Data Bus Cable

				Attenuation (dB/100 ft)						
M17 Part	Impedance (ohms)	Capacitance (pF/ft)	Max Voltage	100 MHz Typ/Max	400 MHz Typ/Max	1 GHz Typ/Max	2.4 GHz Typ/Max	5 GHz Typ/Max	10 GHz Typ/Max	Max Frequency (GHz)
M17/60-RG142	50 +/-2	29.4	1900	3.8 / 4.4	8.1 / 9.3	13.7 / 15.3	23.3 / 25.0	37.4 / 41.8	60.0 / 70.7	12.4
M17/93-RG178	50 +/-2	29.4	1000	14.7 / 16.0	30.2 / 33.0	48.9 / 52.0	78.7 / 83.3			
M17/94-RG179	75 +/-3	19.4	1200		15.8 / 21.0					
M17/95-RG180	95 +/-5	17.4	1500	5.7 / 6.6	11.7 / 17.4	19.2 / 23.0				
M17/111-RG303	50 +/-2	29.4	1900	4.0 / 4.4	8.1 / 9.3	13.4 / 15.3				
M17/112-RG304	50 +/-2	29.4	3000	2.4 / 2.7	5.8 / 6.4	10.0 / 11.1	17.6 / 19.6	25.4 / 28.2		8.0
M17/113-RG316	50 +/-2	29.4	1200	7.8 / 11.0	16.0 / 21.0	26.3 / 38.0	43.0 / 55.4			3.0
M17/127-RG393	50 +/-2	29.4	1500	2.2 / 2.5	4.6 / 5.0	7.9 / 9.2	13.5 / 14.2	21.9 / 26.8	35.5 / 37.9	11.0
M17/128-RG400	50 +/-2	29.4	1900	4.1 / 4.5	8.6 / 10.5	14.2 / 18.1	23.6 / 30.2	37.0 / 52.1	57.8 / 78.0	12.4
M17/131-RG403	50 +/-2	29.4	1000		33.3 / 37.0					
M17/152-00001	50 +/-2	29.4	1200	7.6 / 11.0	16.0 / 21.0	26.2 / 38.0	41.2 / 55.4	61.3 / 110.0	90.0 / 170.0	12.4
M17/176-00002	77 +/-7	19.0	1000							
RG187 A/U	75 +/-3	19.4	1200		15.5 / 21.0					
RG188 A/U	50 +/-2	29.4	1200	7.6 / 11.0	16.0 / 21.0	26.2 / 38.0	41.2 / 55.4			3.0
RG195 A/U	95 +/-5	17.4	1500		11.7 / 17.4					
RG196 A/U	50 +/-2	29.4	1000	13.0 / 16.0	27.2 / 33.0	41.7 / 52.0	64.0 / 80.0			3.0

° UL approvals for many of the MIL-DTL-17 cables listed are available upon request.

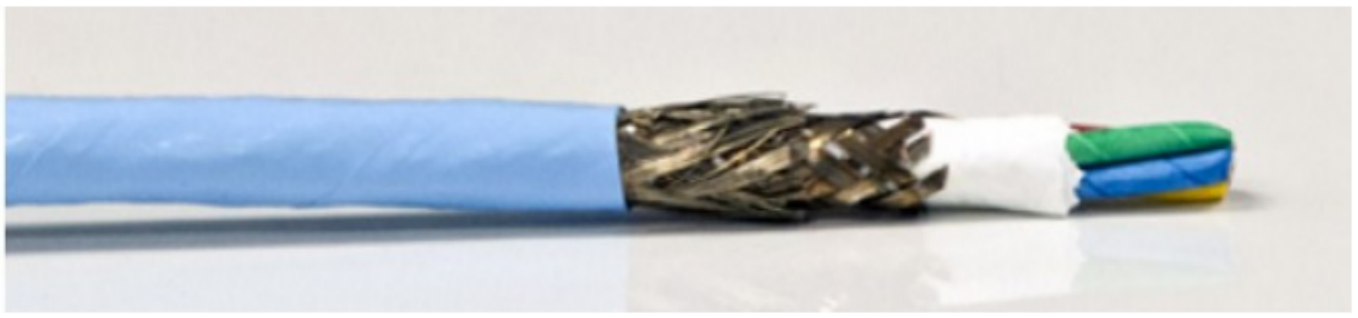
° Maximum frequencies are those referenced on individual slant sheets of the MIL-DTL-17 specification. No values are given above 400MHz for unswept constructions because MIL-DTL-17 specification recommends these cables should not be used above this frequency.

° The MIL-DTL-17 specification references maximum attenuation values as shown in the above chart, however typical values are substantially lower. For the more popular constructions, the following K factors may be used to calculate typical attenuation at any specific frequency.

	M17/60-RG142	**M17/93-RG178**	**M17/94-RG179**	**M17/113-RG316**	**M17/128-RG400**	**M17/127-RG393**
K1	.355	1.420	.766	.750	.390	.200
K2	0.00245	0.0034	0.00119	0.0026	0.00188	0.00155

100 Base-T Ethernet Cables – Shielded Quad Construction

Netflight 100 Base-T Ethernet cables with quad construction feature our advanced LTE extruded expanded PTFE dielectric for increased velocity of propagation.



Key Features | Product Construction | Mechanical/Environmental Performance Table

P/N	NF26Q100-01	NF24Q100-01	NF22Q100-01
Conductor AWG Size	26	24	22
Cable Diameter (in.)	0.137	0.163	0.190
Cable Weight (lbs/1000ft)	18.0	24.5	34.5
Impedance± 10%(Ω)	100	100	100
Capacitance (pF/ft)	13	13	13
Velocity of Propagation	80%	80%	80%
Max Attenuation at 100MHz (dB/100ft)	9.3/11.0	8.0/9.2	6.4/7.3
NEXT (dB)	35	35	35
SRL	16	16	16

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CABLE DRAWING

Habia Cable

Article Number/Doc Number	Revision No	Status	Phase
3000040000	**03**	**Released**	**Production**

Description	Habia Inspection Plan (HIP)	Page
RG 400 (M)	HIP-G-302	1 of 1

Customer Product Number	Created by	Approved by
	H. Bertilsson	T. Eriksson

Customer Product Description	Creation Date	Approval Date
	2018-09-03	2018-09-04

Intended Use	Primarily as transmission line in high frequency applications.	CE

Technical Data	Values at +20° C	Unit
Conductor Resistance	max 29.8	Ω/km
Insulation Resistance	>5000	MΩ x km
Test Voltage	1 min: 3	kV AC
Voltage Rating	600	V AC
Capacitance	nom 94; max 105	nF / km
Impedance	50 ± 2	Ω
Attenuation	max 34.4	dB / 100m @400 MHz
Weight	max 74.4	g / m
Temperature Rating	-65 / +200	°C

Reference standards/specifications
Design generally in accordance with M17/175-00001 acc to MIL-DTL-17
Flame retardant acc to IEC 60332-1 and UL 1581 VW-1

All dimensions in mm, unless otherwise stated.

Pos	Description	Dimension	Overall Diameter	Remarks
1.	Silver plated copper conductor		0.98	19 x 0.203
2.	Dielectric of solid PTFE, natural		2.95	
3.	Braid of silver plated copper wire	d = 0.127	3.5	
4.	Braid of silver plated copper wire	d = 0.127	4.1	
5.	Jacket of FEP, Brown-transparent	t = 0.43	4.95	

Jacket marking in contrasting colour (every 250mm):
RG 400 – Habia Cable – 30000-400-00 – YYYY-Www – Batchcode
YYYY-Www to be replaced with year and week of production
Batchcode to be replaced with manufacturers traceability code