

# ECS Avionics RF Assemblies



Left to Right: 352001 to Size 1, 310801 to N Plug, 311501 to Modified Size 1, 3C142B to TNC 90°, 311601 to N Bulkhead Jack, 432101 to BNC Straight and 311901 to Size 5

## HIGH PERFORMANCE / PROVEN RELIABILITY

At Carlisle Interconnect Technologies (CarlisleIT), we understand how critical it is in today's highly competitive market for aircraft manufacturers and operators to control cost. Lightweight, low loss and high-performance are the keys to reducing operational expenses. That is why CarlisleIT continues to design and manufacture standard RF cables/cable assemblies. All of our cables and assemblies have design features that maximize system integrity and minimize cost of ownership.

## BENEFITS

- » Easier to install (smaller, lighter, more flexible)
- » Built to your specifications
- » Just-in-time delivery
- » Tested to meet system specifications and the test data is shipped with assembly
- » Test data is retained for future orders
- » Expert termination

## KEY FEATURES

- » Up to 75% lighter than Mil-C-17 standard cables
- » Bend radii ranges between .6 – 3 inches
- » -55 to 200°C temperature range
- » Multi-layered shielding provides superior protection against EMI/RFI
- » Minimal Insertion Loss
- » Meets or exceeds FAR Part 25 Burn/Smoke requirements
- » Product ID marker tape with identification every 3-4 inches (laser marked on cable 361601)
- » Low PIM assemblies optimized to reduce unwanted intermodulation products in multi-carrier applications

## SUPPORTED SYSTEMS

- |                 |                   |
|-----------------|-------------------|
| » HF            | » GPS             |
| » Marker Beacon | » SATCOM          |
| » VOR / LOC     | » XM, Wi-Fi       |
| » VHF           | » Radar Altimeter |
| » Glide Slope   | » MLS             |
| » TCAS          | » IFE - KU Band   |
| » DME           |                   |



# ECS Avionics RF Cables

ECS Cable Part Numbers	Electrical Characteristics					Physical Characteristics					
	Impedance (Ohms)	Capacitance (pF/ft)	VOP (%)	D.C. Resistance (Ohms/1000ft)	Time Delay (ns/ft)	Outer Diameter (in)	Weight (lbs/100ft)	Bend Radius (in)	Temp. Min. (°C)	Temp. Max. (°C)	Shields
310701	50	25	81	0.85	1.25	0.485	18	3	-55	150	3
310801	50	25.5	81	0.67	1.25	0.452	19	2.26	-55	200	3
311201	50	25.5	80	1.69	1.27	0.317	8.6	1.59	-55	200	3
421201	50	27	80	1.69	1.27	0.313	7.5	1.6	-55	200	2
311501	50	25.5	80	2.98	1.27	0.229	5.1	1.2	-55	200	3
361601	50	25	80	4.1	1.27	0.195	3.8	1	-55	150	3
311601	50	25.5	80	4.1	1.27	0.229	5	1.15	-55	200	3
421601	50	26.7	76	4	1.34	0.205	4	1	-55	200	2
311901	50	29.3	70	19.5	1.46	0.195	4.3	1	-55	200	3
352001	50	25.5	80	7.5	1.25	0.162	2.7	0.81	-55	200	2
3C142B	50	29.4	70	19.5	1.46	0.195	4	1	-55	200	2
3C058A	50	31	70	8.5	1.46	0.195	4	1	-55	200	2
432101	50	26	76	9.6	1.34	0.13	1.45	0.65	-55	200	2
532101	50	27	76	14.8	1.34	0.13	1.55	0.65	-55	150	2

ECS Cable Part Numbers	Attenuation (dB/100ft)												
	HF System (2-30 MHz)	Marker Beacon System (75 MHz)	VOR/LOC System (108-118 MHz)	VHF System (118-156 MHz)	Glide Scope System (329-335 MHz)	TCAS/Mode S System (1030, 1090 MHz)	DME System (960-1220 MHz)	GPS System (1575 MHz)	SATCOM System (1559, 1660 MHz)	XM, WiFi System (2200-2400 MHz)	Radar Altimeter System (4200-4400 MHz)	MLS System (5030-5091 MHz)	IFE-KU Band System (10.7-12.75 GHz)
310701	0.5	0.8	0.9	1.0	1.7	3.1	3.3	3.8	3.9	4.6	6.9	7.2	--
310801	0.6	0.9	1.2	1.3	2.2	3.6	3.8	4.4	4.6	6.5	7.8	8.5	--
311201	0.9	1.4	1.8	2.1	3.1	5.6	5.8	6.5	6.7	8.9	11.8	12.7	23.7
421201	1.0	1.7	2.1	2.4	3.4	6.3	6.6	7.6	7.8	9.6	13.0	14.0	--
311501	1.2	1.9	2.3	2.7	4.3	7.1	7.5	8.6	9.1	10.7	14.7	16.1	28.1
361601	1.4	2.2	2.7	3.1	4.6	8.5	9.1	10.4	10.6	12.9	17.9	19.4	32.3
311601	1.5	2.4	2.9	3.3	4.4	8.7	9.2	10.6	10.9	13.3	18.3	20.0	34.6
421601	1.7	2.4	2.9	3.8	5.3	8.9	9.4	10.8	11.1	12.7	18.3	19.6	33.5
311901	1.9	3.0	3.7	4.3	6.8	12.2	12.9	14.9	15.8	18.6	26.4	30.0	51.3
352001	2.0	3.0	3.9	4.5	6.6	12.2	12.9	14.7	14.8	20.4	24.4	26.4	--
3C142B	2.1	3.6	4.3	5.0	7.5	14.5	15.2	17.6	18.1	22.2	31.8	34.9	--
3C058A	2.4	3.9	5.1	5.9	9.4	20.7	21.2	25.3	26.3	30.7	53.2	59.0	--
432101	2.7	4.0	4.7	5.3	7.7	14.3	14.9	17.5	17.8	21.4	30.7	33.4	--
532101	2.8	4.6	5.6	6.4	9.3	17.4	18.3	21.1	21.8	25.7	36.7	39.0	--

# ECS Avionics RF Connectors

CarlisleIT designs Avionics RF Connectors specifically for our cables to enhance the cables' performance and ensure a quality product. These connectors can withstand the punishment of avionics installations and harsh operating conditions. They are engineered to be rugged, seal out moisture and hold up to environmental variations under high temperature and pressure.

CarlisleIT is always developing new connectors for different applications. Please visit our website for a complete list of ECS Avionics RF Connectors.



Connector Types	ECS Avionics RF Cable Part Numbers							
	432101, 532101	352001	311901, 3C142B, 3C058A	311501, 311601, 421601	361601	311201, 421201	310801	310701
Bulkhead N	BNS522	BNS3522	BN3722	BNS922	--	BN3122	BNS022	BNS002
Bulkhead TNC	BTS522	BTS3522	BTS722	BTS922	BTS6622	BTS122	BTS022	BTS002
Bulkhead BNC	BBS522	BBS3522	BBS722	--	--	--	--	--
SMA 90°	CSR522	CSR3522	CSR722	CSR922	--	CSR122	--	--
SMA Straight	CSS522	CSS3522	CSS722	CSS922	--	CSS122	--	--
HN 90°	--	CHR3522	CHR722	CHR922	--	CHR122	CHR022	--
N 90°	CNR522	CNR3522	CNR722	CNR922	--	CNR122	CNR022	CNR002
N Straight	CNS522	CNS3522	CNS722	CNS922	CNS6622	CNS122	CNS022	CNS002
C 90°	CCR522	CCR3522	CCR722	CCR922	--	CCR122	CCR022	CCR002
C Straight	CCS522	CCS3522	CCS722	CCS922	--	CCS122	CCS022	--
BNC 90°	CBR522	CBR3522	CBR722	CBR922	CBR6622	CBR122	CBR022	--
BNC 90° Extended	--	CBRE3522	--	CBRE922	--	--	--	--
BNC 90° Long	--	CBRL3522	--	CBRL922	--	--	--	--
BNC Straight	CBS522	CBS3522	CBS722	CBS922	CBS6622	CBS122	CBS022	--
TNC 90°	CTR522	CTR3522	CTR722	CTR922	CTR6622	CTR122	CTR022	CTR002
TNC 90° Extended	--	CTRE3522	--	CTRE922	--	--	--	--
TNC 90° Long	--	CTRL3522	--	CTRL922	--	--	--	--
TNC Straight	CTS522	CTS3522	CTS722	CTS922	CTS6622	CTS122	CTS022	CTS002
ARINC 404 Size 1	LM522	LM3522	LM722	LM922	--	LM122	LM022	--
ARINC 600 Size 1	L5122	L35122	L7122	L9122	--	L1122	L0122	L0102
ARINC 600 Size 1 Modified	M5122	M35122	M7122	M9122	--	M1122	M0122	--
ARINC 600 Size 5	P522	P3522	620021	P922	P6622	--	--	--

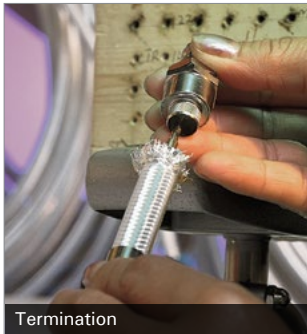
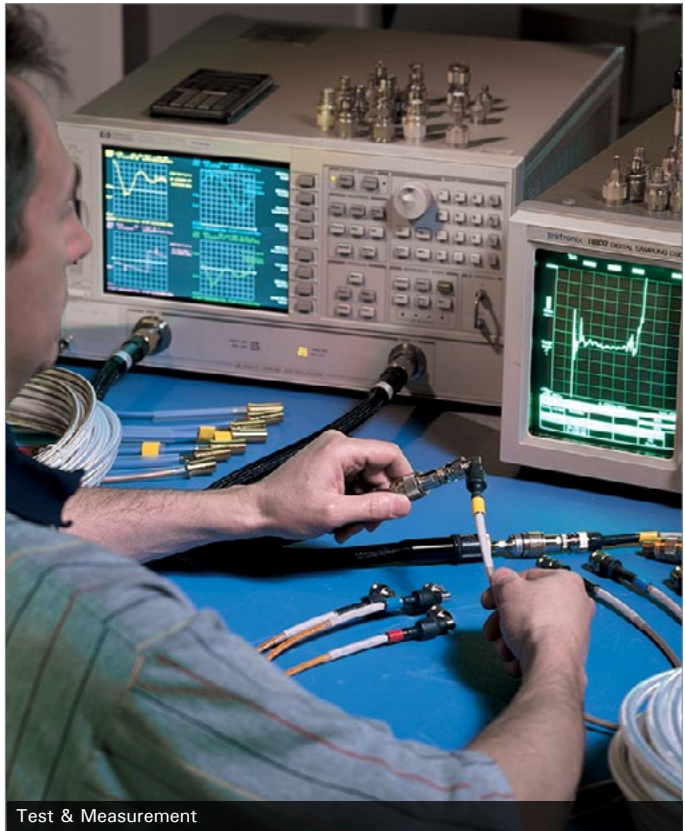


# ECS Avionics RF Cables

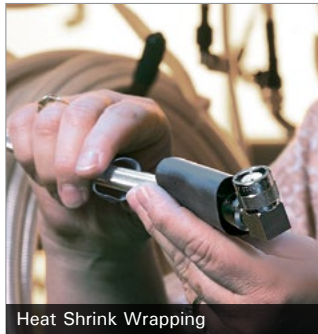
## QUALITY ASSURANCE

Each ECS Avionics RF Cable Assembly is tested on our network analyzers to maintain high quality and ensure reliability. Insertion loss, time delay and VSWR are measured to verify performance and to meet your exact assembly requirements.

RF Assembly electrical profiles are documented and a certificate of compliance is included with each ship-set. Profiles are archived in our database to ensure repeatability. For phase-matched cables, CarlisleIT is able to remanufacture individual, phase-matched cables rather than replacing an entire ship set.



Termination



Heat Shrink Wrapping

Test & Measurement

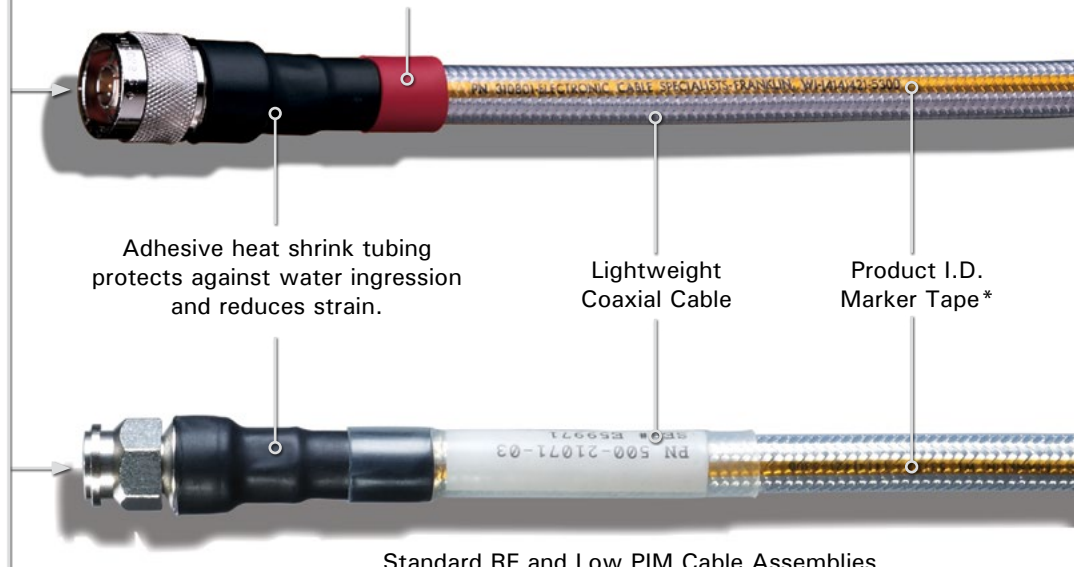
### ECS Avionics RF Cable Assemblies

CarlisleIT standard heavy duty connectors are made from corrosion resistant materials and seal out moisture.

### Low PIM ECS Avionics RF Cable Assemblies

CarlisleIT Low PIM connectors are made from non-ferromagnetic materials. They are corrosion resistant and seal out moisture.

Color coded heat shrink tubing is available for both cable assembly types.



Standard RF and Low PIM Cable Assemblies offer low loss & low VSWR performance.

\* Cable 361601 is laser marked.