



Aerospace & Avionics Data Bus & RF Cables

ARINC 708 / 453

Weather-Radar Avionics Data Bus Cable

AEEC ARINC 708 / 453 · $78 \Omega \pm 4 \Omega$ · 1 Mbps · 22/24/26 AWG · Foam FEP (≤ 56 pF/m) · Foil



AEEC ARINC 708 / 453

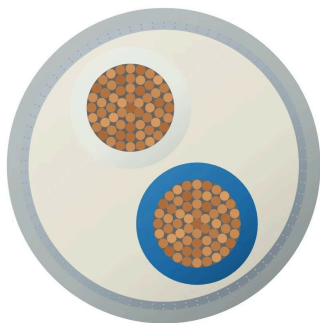
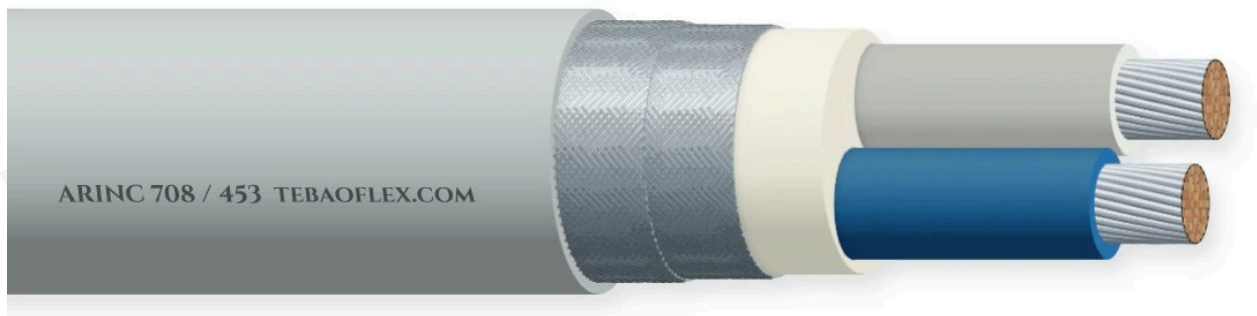
 $78 \Omega \pm 4 \Omega$ · 1 Mbps WXRLow-Loss ≤ 56 pF/m Twinax

Application

ARINC 708 / 453 Weather Radar Avionics Data Bus Cable is a tight-tolerance $78 \Omega \pm 4 \Omega$ high-speed twinax cable engineered to AEEC ARINC Characteristic 708 and ARINC 453 for 1 Mbps Manchester-coded airborne weather radar (WXR), predictive windshear, and

Typical uses: Airborne Weather Radar (WXR-2100 / RDR-4000), Predictive Windshear & Turbulence Displays, Cockpit Multi-Function Displays (MFD / ND), TAWS / EGPWS Terrain Picture Buses, Military Tanker, Awacs & Maritime Patrol

Construction



Cross-section, not to scale

1	19-strand SPC / Ag-Cu alloy twinax pair	ARINC 708 / AS22759
2	Low-capacitance cellular foam FEP / PTFE	ARINC 708 / 453
3	100 % aluminised fluoropolymer/polyimide	ARINC 708
4	High-coverage silver-plated copper braid	MIL-DTL-27500
5	Laser-markable FEP / ETFE / PTFE outer	FAR 25.853

Technical data

Typical values

Characteristic impedance Z_0	78 $\Omega \pm 4 \Omega$ (swept 1 MHz to 20 MHz)	Mutual pair capacitance	54.0 to 59.0 pF/m (16.5 to 18.0 pF/ft)
Velocity of propagation (VoP)	78.0 % (4.27 ns/m delay)	Attenuation at 1 MHz / 10 MHz	≤ 3.9 dB/100m / ≤ 11.8 dB/100m
Pair capacitive unbalance	≤ 1.5 pF/m to shield	Dielectric test voltage	1,500 V rms at 60 Hz
Operating temperature range	-55 $^{\circ}\text{C}$ to +200 $^{\circ}\text{C}$ continuous	Unpressurized nose-bay cold soak	-55 $^{\circ}\text{C}$ at 55,000 ft altitude
Flammability & smoke rating	FAA FAR 25.853, Airbus ABD0031, BSS 7230	Thermal shock stability	-55 $^{\circ}\text{C}$ to +200 $^{\circ}\text{C}$ without impedance drift
Soldering heat resistance	Fluoropolymer resists termination iron heat	UV laser markability	High-contrast 355 nm UV laser printable
Conductor gauges available	22 AWG, 24 AWG, and 26 AWG (19-strand)	Outer jacket diameter (24 / 22 AWG)	2.95 mm (0.116 in) / 3.40 mm (0.134 in)
Min. bend radius (fixed / install)	15 mm (5xD) / 30 mm (10xD)	Nominal weight (24 / 22 AWG)	17.2 kg/km / 24.5 kg/km
Connector contact size	MIL-DTL-38999 & ARINC 600 Size 8 twinax	Pair lay symmetry	Precision concentric twinax stranding
Aviation fluids & Skydrol	Inert to Skydrol, Jet-A, hydraulic oil &	X-band radar HIRF immunity	Foil + 95 % SPC braid blocks radome RF
Composite airframe lightning guard	Optional dual SPC braid for CFRP airframes	Moisture & altitude sealing	Closed-cell fluoropolymer resists
Arc-tracking resistance	Passes SAE AS4373 wet/dry arc track	RoHS / REACH status	Aerospace RoHS compliant
Standards	AEEC ARINC Characteristic 708 & 708A		

Sizes

4 standard constructions

Tick the sizes you need and send this page to info@tebaoflex.com or WhatsApp +86 185 9591 3361.

Order designation	Construction / Variant	Conductor	Outer $\varnothing \approx$ mm	Metal kg/km	Weight $\approx$ kg/km	Min. bend R fixed mm
Standard ARINC 708 / 453 variants 4 sizes						
☐ ARINC 708/453 1x2x24 AWG Foam FEP Twinax	78 $\Omega \pm 4 \Omega$ + Foil + 95% SPC Braid	24 AWG (19x36 Alloy)	2.95	10.5	17.2	15
☐ ARINC 708/453 1x2x22 AWG Extended-Run Twinax	78 $\Omega \pm 4 \Omega$ + Foil + 95% SPC Braid	22 AWG (19x34 SPC)	3.40	15.2	24.5	17
☐ ARINC 708/453 1x2x24 AWG Dual-Braid CFRP Grade	78 $\Omega \pm 4 \Omega$ + Foil + Dual SPC Braid	24 AWG (19x36 Alloy)	3.35	16.8	24.8	17
☐ ARINC 708/453 1x2x26 AWG Ultra-Lightweight	78 $\Omega \pm 4 \Omega$ + Foil + 95% SPC Braid	26 AWG (19x38 Alloy)	2.55	7.4	12.8	13

- Dimensions and weights are nominal production values subject to manufacturing tolerances per AEEC ARINC 708 / ARINC 453 / MIL-DTL-27500.

Impedance, capacitance & electrical data

4 sizes

Configuration	Max. conductor DCR $\Omega / \text{km} @ 20^{\circ}\text{C}$	Characteristic Z_0 Ω	Capacitance pF / m	Velocity VoP %	Test voltage V rms
78 $\Omega \pm 4 \Omega$ + Foil + 95% SPC Braid	1.5	78	48.0	78	1,500
78 $\Omega \pm 4 \Omega$ + Foil + 95% SPC Braid	1.6	78	48.0	78	1,500
78 $\Omega \pm 4 \Omega$ + Foil + Dual SPC Braid	1.5	78	48.0	78	1,500
78 $\Omega \pm 4 \Omega$ + Foil + 95% SPC Braid	1.4	78	48.0	78	1,500

- Transmission parameters measured at 1-100 MHz (+20 $^{\circ}\text{C}$) in accordance with AEEC ARINC 708 / ARINC 453 / MIL-DTL-27500.

Standards and approvals

- ✓ AEEC ARINC 708 & ARINC 453
- ✓ MIL-DTL-27500 / AS4373
- ✓ FAA FAR 25.853 / ABD0031

Certifications



Management systems: ISO 9001, ISO 14001, ISO 45001

Request a quotation

Send the size, length and destination. An application engineer replies within 2 business hours.

WhatsApp / phone

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Email

info@tebaoflex.com

Web

tebaoflex.com/cables/arinc-708-453-weather-radar-avionics-data-bus-cable



Typical values for this cable type, based on AEEC ARINC 708 / ARINC 453 / MIL-DTL-27500. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.