



AN/ARC-210 ANCILLARY TOOLS

EXPAND YOUR REPROGRAMMING CAPABILITIES

Perform software upgrades
and integration tests in-house



INTRODUCTION

Collins Aerospace's AN/ARC-210 ancillary tools consist of:

- Receiver-transmitter reprogramming kit
- Remote control unit reprogramming kit
- PC controller software
- Integration test fixture

The combination of these four products provides the capability to perform operating software upgrades and complete integration test support of the AN/ARC-210 receiver-transmitter (RT) and remote control unit (RCU) within a variety of field environments. These tools provide users with an in-house capability to support their own software configuration control process.



KEY FEATURES

- The RT and RCU reprogramming kits provide stand-alone reprogramming capability of RT-1794(C), RT-1824(C), RT-1851(C), RT-1851A(C), RT1939(C), RT-1939A(C), RT1990(C), RT-1990A(C), C-12561A and C-12719.
- The PC controller software provides the user the capability to control any AN/ARC-210 RT via the MIL-STD-1553 interface and perform Built-in-test (BIT). The controller software can also be used in a monitor capacity while the RT is controlled by a C-12561A or C-12719 RCU.
- The integration test fixture provides capability to test the C-12561A, RT-1794(C), RT-1824(C), RT-1851(C), RT-1851A(C), RT1939(C), RT-1939A(C) or RT1990(C), RT-1990A(C) and connects to any MIL-STD-1553B controller for full integration test support of the AN/ARC-210 system.

SUMMARY

| NOMENCLATURE | PART NUMBER | DESCRIPTION |
|---|--------------|---|
| Cable kit, receiver-transmitter loader verifier | 987-1627-003 | AN/ARC-210 reprogramming kit with MIL-STD-1553B PCMCIA bus interface card* |
| Cable kit, receiver-transmitter loader verifier | 987-1627-004 | ARC-210 reprogramming kit without MIL-STD-1553B PCMCIA bus interface card* |
| Cable, special purpose software loader, remote control unit | 987-1842-001 | C-12561A reprogramming kit (requires serial port on PC) |
| Cable, special purpose software loader, remote control unit | 987-1842-002 | C-12561A reprogramming kit with USB adapter |
| Cable, special purpose software loader, remote control unit | 987-8142-001 | C-12719 reprogramming kit (requires serial port on PC) |
| Cable, special purpose software loader, remote control unit | 987-8142-002 | C-12719 reprogramming kit with USB adapter |
| AN/ARC-210 PC controller software | 984-3451-003 | Software to control AN/ARC-210 via MIL-STD-1553B bus |
| PCMCIA Type II interface card | 270-2706-030 | MIL-STD-1553B PCMCIA Type II bus interface card driver and cable |
| PCMCIA Type III interface card | 270-2706-020 | MIL-STD-1553B PCMCIA Type III bus interface card driver and cable |
| USB interface card | 270-3417-010 | MIL-STD-1553B USB bus interface card driver and cable |
| Integration test fixture (973F-1) | 822-1888-001 | Provides connections for the AN/ARC-210 system and the MIL-STD-1553B bus to support system integration testing |
| 973F-4 reprogramming kit | 822-3148-001 | RT1939(C), RT-1939A(C)/RT1990(C), RT-1990A(C) and C-12561A reprogramming kit with MIL-STD-1553B USB bus interface card |
| 973F-4 reprogramming kit | 822-3148-002 | RT1939(C), RT-1939A(C)/RT1990(C), RT-1990A(C) and C-12561A reprogramming kit without MIL-STD-1553B USB bus interface card |
| Amplifier, audio frequency | 822-1617-001 | Speaker panel |

* For reprogramming of RT-1794(C), RT-1824(C), RT-1851(C) and RT-1851A(C) only

REPROGRAMMING KITS

RECEIVER-TRANSMITTER (RT)

This AN/ARC-210 receiver-transmitter reprogramming kit comes either with or without the MIL-STD-1553B PCMCIA interface card (Collins Aerospace part numbers 987-1627-003 or 987-1627-004, respectively). Both kits include the following:

- CD-ROM with receiver-transmitter loader verifier (RTLTV) software
- Two special purpose cable assemblies (one for RT power and one for RT control/load)
- One two-stub bus coupler
- User's guide for the RTLTV software

The RTLTV software is compatible with the Ballard CM1553-1, CM1553-3 PCMCIA and the Ballard USB 1553 interface cards. A typical application of the AN/ARC-210 receiver-transmitter reprogramming kit is depicted in Figure 1 below.

Note: This reprogramming kit can only be used with the RT-1794(C), RT-1824(C), RT-1851(C) and RT-1851A(C).



RRS-100 radio reprogramming set

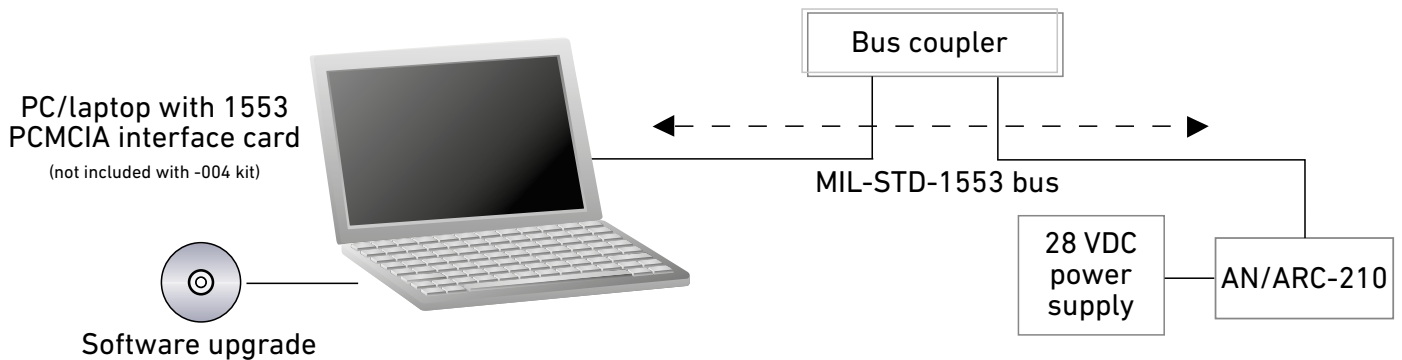


Figure 1: AN/ARC-210 reprogramming kit application

**RT1939(C), RT-1939A(C)/RT1990(C), RT-1990A(C)
AND C-12561A**

This RT1939(C), RT-1939A(C)/RT1990(C), RT-1990A(C) reprogramming kit comes either with or without the MIL-STD-1553B USB interface card (Collins Aerospace part numbers 822-3148-001 or 822-3148-002, respectively). Both kits include the following:

- CD-ROM with RTL software
- 973F-4 reprogramming kit with internal 28 VDC power supply (with connections to an RT and an RCU and DS-101 fill ports)
- Kit AC power cable

The RTL software is compatible with the Ballard CM1553-1 and CM1553-3 PCMCIA and USB interface cards. A typical application of the AN/ARC-210 receiver-transmitter reprogramming kit is depicted in Figure 2 below.

Note: This reprogramming kit can be used with the RT-1794(C), RT-1824(C), RT-1851(C), RT-1851A(C), RT1939(C), RT-1939A(C), RT1990(C) and RT-1990A(C).



973F-4 reprogramming kit



Cable kit, remote control kit

REMOTE CONTROL UNITS

Both the C-12561A (379F-16A) reprogramming kits (Collins Aerospace part numbers 987-1842-001 and 987-1842-002) and the C-12719 (379F-21) reprogramming kits (part numbers 987-8142-001 and 987-8142-002) include a user's guide and an interface cable (C-12561A interface cable, part number 987-1842-001, shown above). The interface cable interconnects the RCU to a PC's communication port (either RS-232 serial port or USB) and a 28 VDC power supply.

A typical application of these kits is depicted in Figure 3 below. The RCU Operational Flight Program includes the application software used to load it.

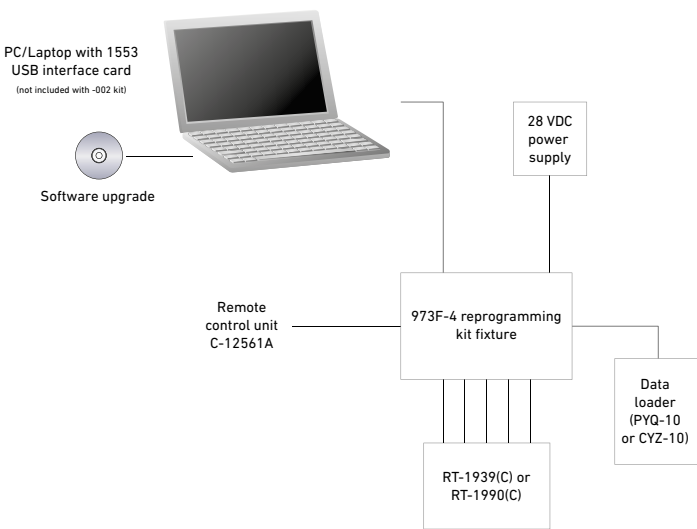


Figure 2: RT1939(C), RT-1939A(C)/RT1990(C), RT-1990A(C) reprogramming kit application

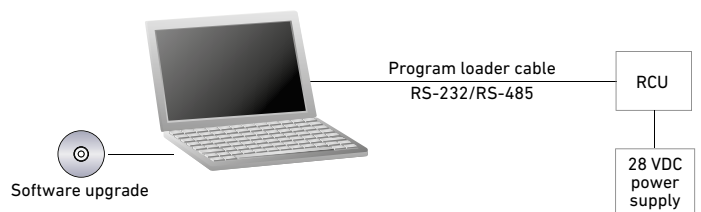


Figure 3: RCU reprogramming kit application

CONTROLLER SOFTWARE

AN/ARC-210 PC CONTROLLER SOFTWARE

The AN/ARC-210 PC controller software (Collins Aerospace part number 984-3451-003) is a Windows®-based software application that allows the user to control up to four AN/ARC-210 receiver-transmitters over the MIL-STD-1553B bus (refer to Figure 4 below). This part number includes a CD-ROM with the software, user's guide and installation instructions. This software requires the use of the same MIL-STD-1553B PCMCIA interface card (RCPN 270-2706-020 or 270-2706-030 or 270-3417-010) as used in the AN/ARC-210 reprogramming kits and is also compatible with the

Ballard CM1553-1 PCMCIA, CM1553-3 PCMCIA, LP-1553 and the Ballard USB 1553 interface cards (which can be ordered separately from Ballard Technology).

Note: The license for this controller software specifies that the program cannot be copied and can be installed on only one computer at a time. Minimum PC requirements: IBM compatible, Pentium® processor, Windows® XP operating system, 30 MB of hard drive space, 128 MB of RAM, 800 x 600 display, one Type II or Type III PCMCIA slot or USB port.

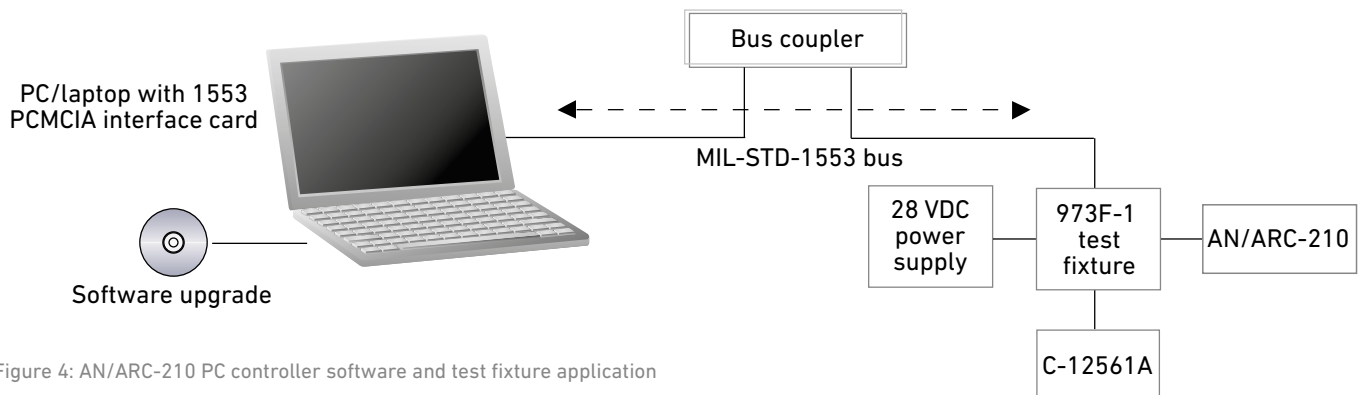


Figure 4: AN/ARC-210 PC controller software and test fixture application

PCMCIA INTERFACE CARDS

PCMCIA TYPE II INTERFACE CARD (COLLINS AEROSPACE PART NUMBER 270-2706-030) (BALLARD TECHNOLOGY CM1553-3AT2)

This part number is for the PCMCIA MIL-STD-1553B interface card used with the AN/ARC-210 PC controller software and RT reprogramming kits. This interface card requires one Type II PCMCIA card slot.

PCMCIA TYPE III INTERFACE CARD (COLLINS AEROSPACE PART NUMBER 270-2706-020) (BALLARD TECHNOLOGY CM1553-3AT3)

This part number is for the PCMCIA MIL-STD-1553B interface card used with the AN/ARC-210 PC controller software and RT reprogramming kits. This interface card requires one Type III PCMCIA card slot.

USB INTERFACE CARD (COLLINS AEROSPACE PART NUMBER 270-3417-010) (BALLARD TECHNOLOGY UA1120)

This part number is for the USB MIL-STD-1553B interface card used with the RT reprogramming kits. This interface card requires one USB port.

TEST FIXTURE AND AUDIO EQUIPMENT

973F-1 TEST FIXTURE

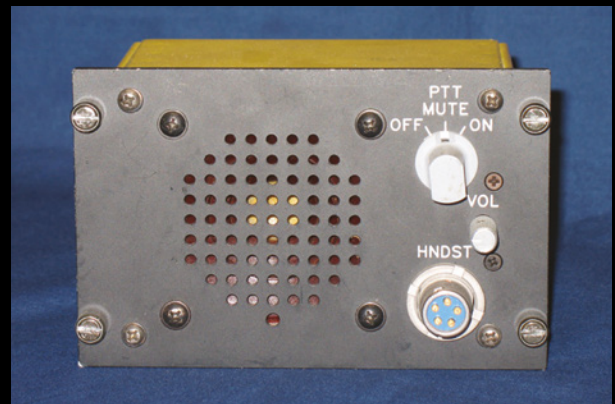
The 973F-1 (Collins Aerospace part number 822-1888-001) is a 19-inch, rack-mountable test fixture that provides connections for the C-12561A RCU, AM-7526 high power amplifier, and the MX-11641 LNA/diplexer, in addition to one of the following receiver-transmitters: RT-1794(C), RT-1824(C), RT-1851(C), RT-1851A(C), RT1939(C), RT-1939A(C), RT1990(C) or RT-1990A(C) (refer to Figure 4 on the previous page). The fixture provides bus connections for an external MIL-STD-1553B controller, which makes it an ideal tool for system integration testing. In addition, the fixture provides test/connection points for radio discretes, data ports, fill ports and audio ports. The 973F-1 operates from 28 VDC and routes power for all connected AN/ARC-210 system components. (The power interface mating connector is supplied with the test fixture.)

649L-2 SPEAKER PANEL

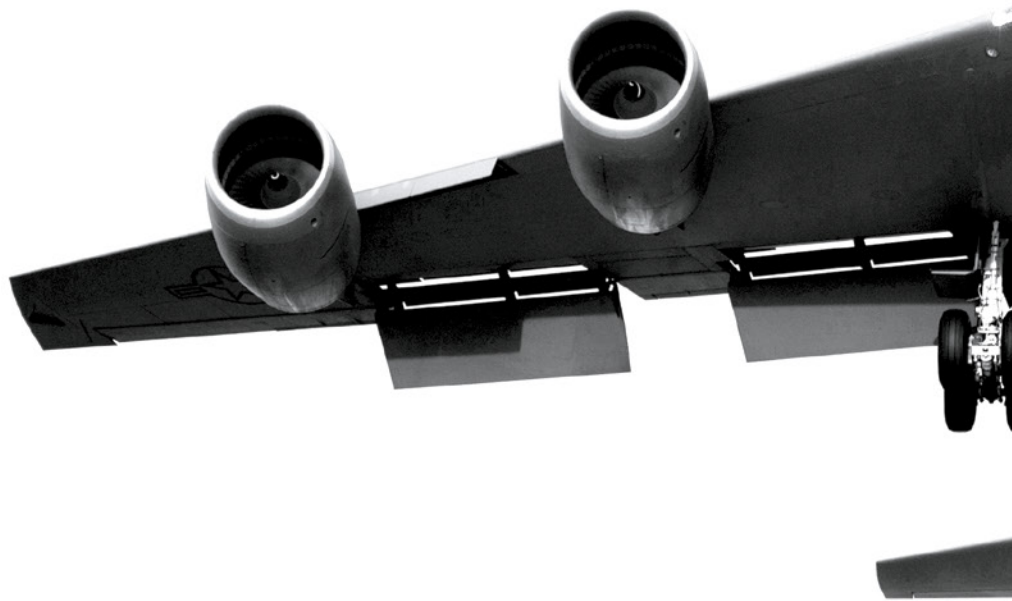
The 649L-2 (Collins Aerospace part number 822-1617-001) is a Dzus rail-mountable speaker panel that can be interfaced to any AN/ARC-210 radio. The built-in speaker with front panel volume control and front panel connection for an H-250 handset make the 649L-2 ideal for system integration labs or ground stations. A mating connector kit for the 649L-2, which includes the mating connector and strain relief, can be ordered separately (Collins Aerospace part number 987-6460-005).



973F-1 test fixture



649L-2 audio equipment



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