File No.: 0482-EX-ST-2010

EXHIBIT 1

Submisstion Date:	**October 3, 2010**
Confirmation Number:	**EL619776**
FRN:	**0016387748**

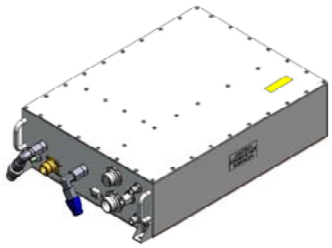
1. Description of Transmitting Equipment

The RF equipment to be operated for the demonstrations under this STA consists of an Airborne Data Link Terminal (ADLT) (L-3 Communications Systems West T-Series, Part Number 60072525+000) and a compatible Ground Surface Terminal (L-3 Communications Model TIGDL III Surface Terminal Equipment (STE), Part Number 60072526+000). The ADLT is designed to operate on military tactical aircraft. The STE is designed to be man-portable and to operate with mobile ground data processing units. The ADLT and STE operate together to form a full duplex Ku-band digital data link, providing wide-band high rate data communication from an airborne reconnaissance sensor to a ground exploitation system over a digital IP network established through the ADLT and STE.

ADLT Equipment

The Airborne Data Link Terminal (ADLT) consists of the following RF equipment:
a) (**Antenna 1**) 9.5" parabolic antenna, 2-axis steerable (L3-CSW P/N 60072537, Goodrich P/N J39-25002); 7.5 degree 3dB Beam Width, 24.6 dBic Gain.

b) Liquid-cooled RF Electronics Assembly, 50W Ku-Band power amplifier & diplexer (L-3CSW P/N 60072534, Goodrich P/N J39-25001);



c) Liquid-Cooled Airborne Modem Assembly, Network-enhanced CDL-Standard Modulator/Demodulator (L-3CSW P/N 60072532, Goodrich P/N J39-25000).

d) RF Switch Assembly (L-3CSW P/N 64007083, Goodrich P/N R35-25010)

e) (**Antenna 2**) Ku-Band Horn Antenna (for test purposes only): NARDA Microwave East Model 639 Standard Antenna (or equivalent) with Model 4609 waveguide-to-coax adaptor; 28 degree 3dB Beam Width; 16 dBi Gain.

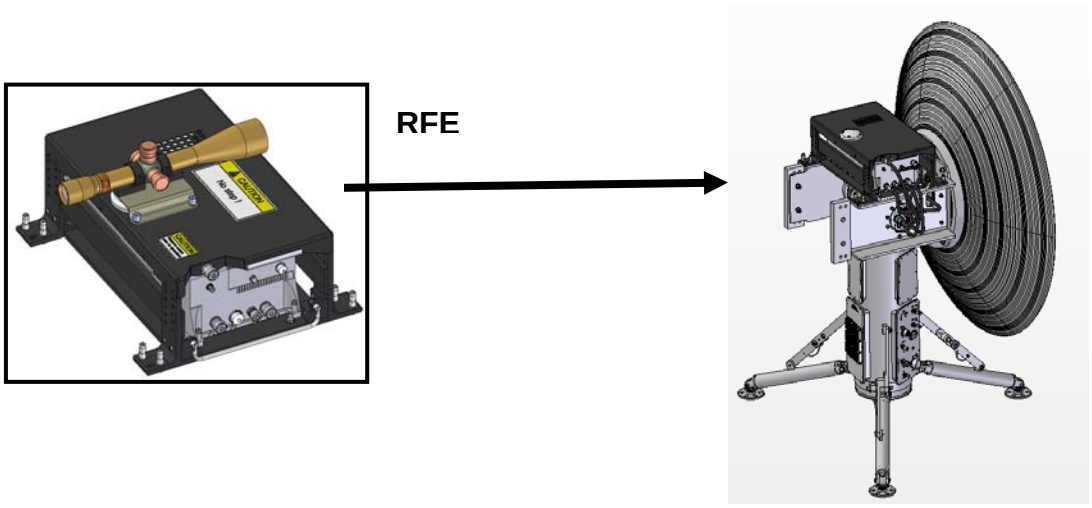
Test equipment used to interconnect the ADLT and its antennas includes the following:

Item	Manufacturer	Model/PN
175 W Load	NARDA Microwave East	369BNM (or equivalent)
40 dB Coupler	NARDA Microwave East	27000-40 (or equivalent)
30 dB Coupler	NARDA Microwave East	4196-30 (or equivalent)
20 dB Coupler	NARDA Microwave East	4196-20 (or equivalent)
10 dB Fixed Attenuator	NARDA Microwave East	4776-10 (or equivalent)
20 dB Fixed Attenuator	NARDA Microwave East	4776-20 (or equivalent)
30 dB Fixed Attenuator	NARDA Microwave East	4776-30 (or equivalent)

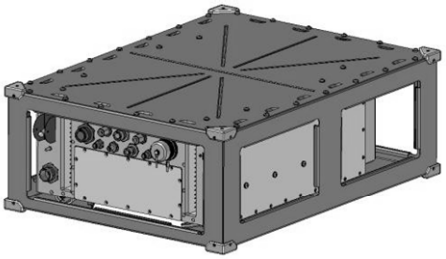
GDLT Equipment

The Ground Data Link Terminal's Surface Terminal Equipment (STE), operating in Ku-band only, consists of the following RF equipment:

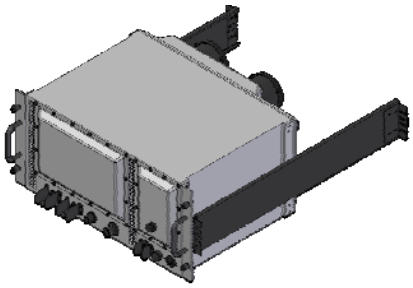
a) Remote Equipment Group (REG) 2-Axis Tracking Pedestal with 48" Parabolic Antenna (**Antenna 3**) ; 2.6 degree 3dB Beam Width; 41 dBic Gain (L-3CSW P/N 40009248, Goodrich P/N J39-40016) and Ku-Band RF Electronics Assembly (RFE) (L-3CSW P/N 60064453). The RFE is mounted under a sun-shield on the arms of the pedestal's elevation yoke. It contains a diplexer, a 11.5W maximum output transmit power amplifier, and a receive Low-Noise Amplifier.



b) Remote Equipment Group (REG) Remote Electronics Transport Assembly (RETA) (L-3CSW P/N 60023160, Goodrich P/N J39-40013). The RETA contains the tracking pedestal controls, RF modulator/demodulator and frequency translation hardware.



c) Local Equipment Drawer (LED) (L-3CSW P/N 60023168, Goodrich P/N J39-40014). The LED is connected to the RETA via 1-km fiber optic cable and contains multiplexing, data processing and networking functions.



Test equipment used to interconnect the GDLT and its antenna includes the following:

Item	Manufacturer	Model/PN
50 Ohm Terminator	NARDA Microwave East	375 BNM (or equivalent)
20 dB Coupler	NARDA Microwave East	4196-20 (or equivalent)
10 dB Fixed Attenuator	NARDA Microwave East	4776-10 (or equivalent)
20 dB Fixed Attenuator	S.E. Electronics	SA18N50WA-20 (or equivalent)
30 dB Fixed Attenuator	S.E. Electronics	SA18N50WA-30 (or equivalent)

For the demonstrations, the outputs of both ADLT and STE transmitters will be attenuated by at least 30 to 50dB each using the equipment listed above, depending on location, whether external or internal. This will insure that ERPs are maintained below 900mW for internal tests and below 90W for the external tests. Additional attenuation, up to 30dB for each transmitter, may be added to simulate free-space loss over the maximum expected system operating distance.

2. Location, Installation and Operation of Transmitting Equipment

The STA defines three transmitting locations, resulting in 6 Antenna Stations.
The first location is an internal facility, and includes the 3 transmitting antennas described under 1, where ADLT a) is **Antenna 1** at Antenna Station 1, ADLT e) is **Antenna 2** at Antenna Station 2, and GDLT a) is **Antenna 3** at Antenna Station 3.
Locations 2 and 3 are external to the facility.
Location 2 includes ADLT a) which is **Antenna 1** at Antenna Station 4) and ADLT e) which is **Antenna 2** at Antenna Station 5.
Location 3 includes only the GDLT a) which is **Antenna 3** as Antenna Station 6.

2.1. First Location, Antenna Stations 1, 2 and 3 – Inside the Facility

The first location (42:35:30N, 71:19:17W) is within a fully enclosed laboratory of the Goodrich ISR Systems facility at 5 Omni Way, Chelmsford, MA, 01824-4142. This part of the facility is a high-bay single-story integration and test laboratory of concrete and steel construction, with floor level approximately 1m above ground level. The laboratory internal dimensions are approximately 25m x 25m x 6m ceiling height. The ADLT and STE equipment will be set up in the NE section of the laboratory. The STE REG pedestal and antenna (Antenna 3) will be installed approximately 10 to 15 m away from the ADLT equipment (Antennas 1 and 2).

The operation described for this location will not be conducted continuously. Operation will be conducted intermittently during the hours from 8AM until 6PM on several days during the requested approval period. This internal operation will be conducted as part of preparation for set-up and operation of the same equipment outside of the facility, at higher ERPs, as described for the Second and Third Antenna Locations, under section 2.2, below.

Fig. 1 provides a general schematic for interconnection of the RF equipment at Location 1. Antenna 1 and Antenna 2 (Antenna Stations 1 and 2) will both be driven by the ADLT AMA and RFE through the RF Switch as shown in the schematic. Antenna 1, the ADLT 9.5” Parabolic Antenna, will be fixed in position. Antenna 2, the ‘mobile’ ADLT 16dBi Horn antenna, will be fed through a length of coax cable, so that it can be moved around within the room to test the STE Antenna’s acquisition and tracking functionality.

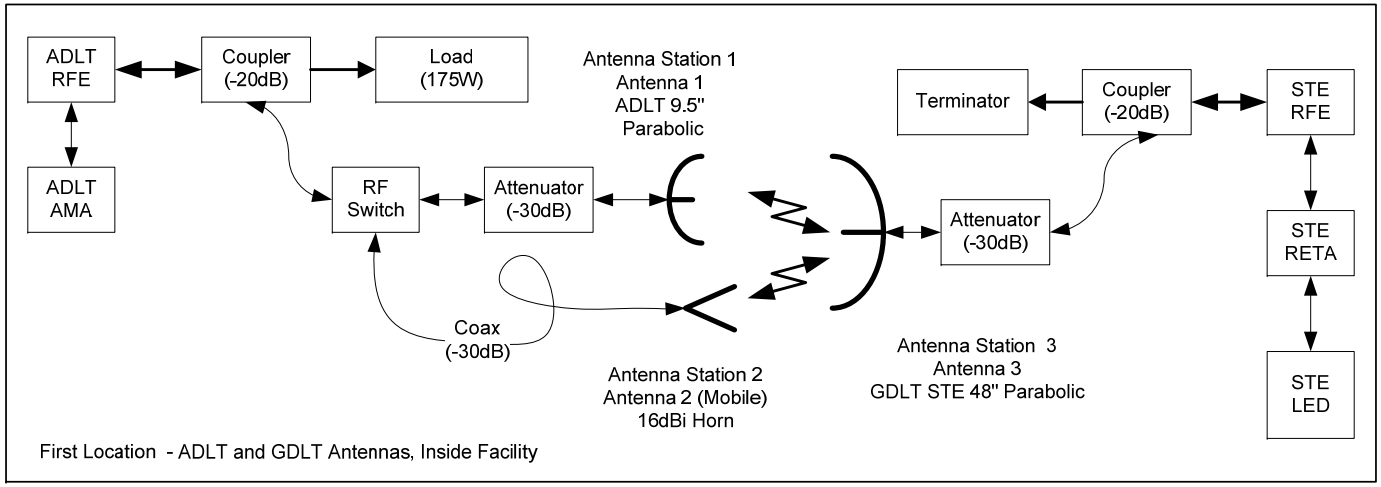


Figure 1 - First Location, Inside Facility: RF Schematic, Antenna Stations 1, 2 and 3

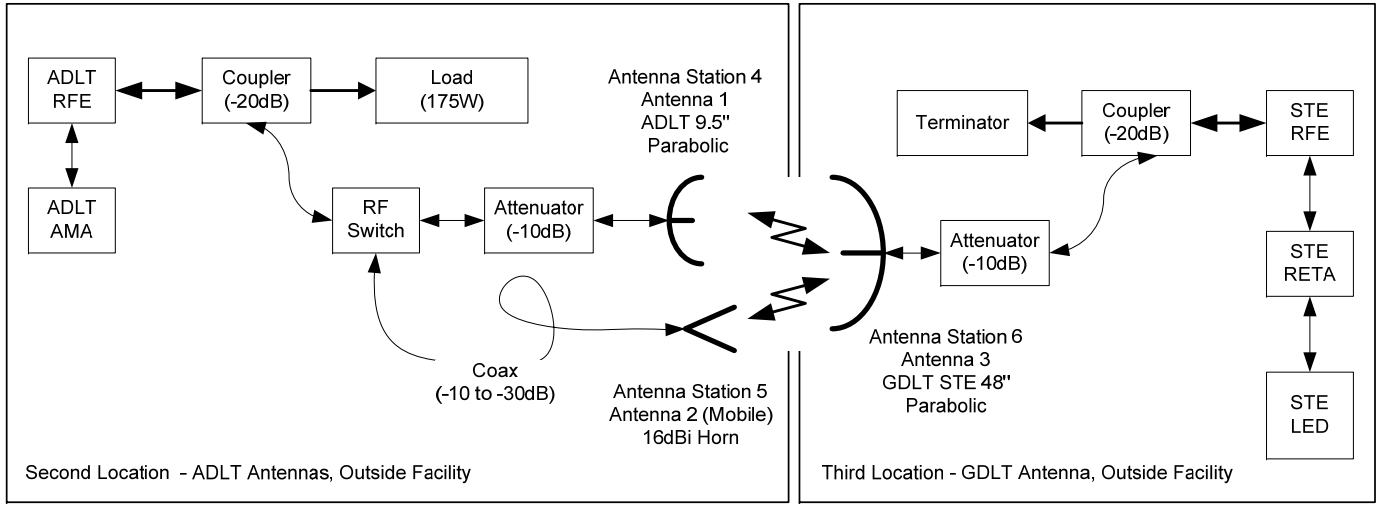


Figure 2 – Second and Third Locations, Outside Facility: RF Schematic, Antenna Stations 4, 5 and 6

ADLT RFE Output Power

(Fig. 1) The ADLT RFE RF amplifier supplies RF power to Antennas 1 and 2, at Stations 1 and 2.

(Fig. 1) The ADLT RFE RF amplifier is certified for a maximum output power of 70 Watt CW (+18.5 dBW) circularly polarized in the Ku-Band, at 14.825 GHz. The output of the ADLT RFE is connected to a 175 Watt capacity fixed load through a directional coupler. The coupler feeds -20 dB of the RFE output to a 2-position RF Switch.

First Location, Station 1, Antenna 1 - ERP

(Fig. 1) The ADLT 9.5" Parabolic Antenna is connected to one port of the RF Switch with a -30dB fixed attenuator. The total attenuation of RFE output through the switch and attenuator to the 9.5" Parabolic Antenna is at least -50 dB. The gain of this antenna is +24.6 dBic. Additional losses in the connections, including coupler and RF switch losses, are not included. The maximum possible output power of the ADLT RFE is 70 W (+18.5dBW). The actual output power of the ADLT RFE will be between the minimum specified of 35W (+15.5dBW) and the nominal rated 50 W (+17.0 dBW). The resulting maximum ERP is 120 mW.

First Location, Station 2, Antenna 2 (Mobile) - ERP

(Fig. 1) The 16dBi Horn Antenna is connected to the other output port of the RF Switch with 20m of coax cable having attenuation at 14.825 GHz of at least -30dB. This antenna will be moved around within the room, on a maximum radius of 20m. The total attenuation of RFE output to the 16dBi Horn Antenna is at least -50 dB. The maximum gain of this antenna is +16dBi at 14.825 GHz. Other losses in the connections, including coupler and RF switch losses, are not included. The maximum possible output power of the ADLT RFE is 70W (+18.5 dBW). The actual output power of the ADLT RFE will be between the minimum specified of 35W (+15.5dBW) and the nominal 50 W (+17.0 dBW). The resulting maximum ERP is 7 mW.

GDLT STE RFE Output Power

(Fig. 1) The GDLT STE RFE RF amplifier supplies power to Antenna 3 at Antenna Station 3. It is certified for a maximum output power of 11.5 Watt CW (+10.6 dBW) circularly polarized in the Ku-Band, at 15.15 to 15.35 GHz. The output of the STE RFE is connected to a 175 Watt capacity fixed load through a directional coupler.

First Location, Station 3, Antenna 3 - ERP

(Fig. 1) The directional coupler feeds -20 dB of the RFE output through a -30 dB attenuator to the GDLT STE 48" Parabolic Antenna. The total attenuation of GDLT RFE output to the 48" Parabolic Antenna is at least -50 dB.
The maximum gain of this antenna is +41dBi in the 15.15 to 15.35 GHz band. Losses in the connections, including coupler losses, are not included. The maximum possible output power of the STE RFE is 11.5 W (+10.6 dBW). The actual output power of the GDLT RFE will be between the nominal output rated at 5.0 W (+7.0 dBW) and the minimum specified at 2 W (+3.0 dBW). The resulting maximum ERP is 870 mW.

2.2. Second and Third Locations – Outside the Facility

Figure 3 shows an aerial view of the Goodrich ISR Systems facility at 5 Omni Way, Chelmsford, MA, 01824-4142. The Second Antenna Location (42:35:31N, 71:19:17W), corresponding with Antenna Stations 4 and 5, is marked ADLT Antenna. The Third Antenna Location (42:35:31N, 71:19:21W), corresponding with Antenna Station 6, is marked GDLT Antenna.

Figure 3 – Aerial View of Second (ADLT Antennas) and Third (GDLT Antenna) Locations

A red line shows the direction (169 deg CW from N) from the Goodrich facility site to the nearest aircraft landing field, at Hanscom Field, Lexington, MA. The distance to the nearest airfield runway point is ~ 13.2 km.

The Goodrich test site is surrounded by 2-story commercial industrial buildings at ~200 to 300m distance, and by 60+m elevation hills, topped by trees and a water tower, within 2km.

A green line indicates the line-of-sight path between the ADLT Antenna position, mounted on or near the NW side of the Goodrich building, and the GDLT STE Antenna position in the facility's NW parking lot. The path length between the antennas at the GDLT and ADLT positions is up to 90 m.

The operation described for these outside locations will be conducted simultaneously, but not continuously. Operation will be conducted a maximum of two or three days during the requested approval period, and typically for less than 4 hours cumulative transmission per day.

The nominal path direction from GDLT to ADLT Antenna positions is approximately 108 degrees east (clockwise) of N (in azimuth), and approximately level (0 degrees) in the vertical plane to within ±2 degree of horizontal (elevation).

The GDLT antenna (**Antenna 3**) and its tracking pedestal will be mounted either directly on the ground surface or mounted on a temporary platform raised up to 1.5m above the ground level. During operation, the GDLT antenna tracking pedestal will be driven to move the beam through approximately ± 5 degrees in elevation and ± 30 degrees in azimuth about the nominal path direction, in order to test its pointing, acquisition and tracking functions.

The ADLT 9.5" Parabolic Antenna (**Antenna 1**) will be mounted on a fixed platform approximately 2m above ground level with its beam pointing towards the GDLT Antenna position, at 288 ± 10 degrees clockwise from North and approximately level (0 degrees ± 5 degrees) in the vertical plane. The 'mobile' ADLT 16 dBi Horn antenna (**Antenna 2**) will be mounted on a portable stand raising it approximately 2m above ground level. It will be fed through coax providing at least -10dB attenuation, and will be traversed primarily East and West up to 50 meters from the marked ADLT position, while pointing 288 ± 30 degrees clockwise from N, and approximately level (0 degrees ±10 degrees), toward the GDLT position.

Fig. 4 shows a scaled side elevation of the path between GDLT and ADLT antenna positions. The main lobe profiles are shown for the ADLT 9.5" Parabolic Antenna and for the GDLT STE 48" Parabolic Antenna. The Antenna Beam Widths and Maximum Height above Ground (to tip of antenna) are given in the table below.

Antenna	Maximum Height Above Ground, meters	3dB Beam Width, degrees
STE 48" Parabolic Antenna	3.0	2.6
ADLT 9.5" Parabolic Antenna	3.0	7.5
ADLT 16dBi Horn Antenna	3.0	28

Side lobes of the parabolic antennas are more than -14dB lower than the main lobes.

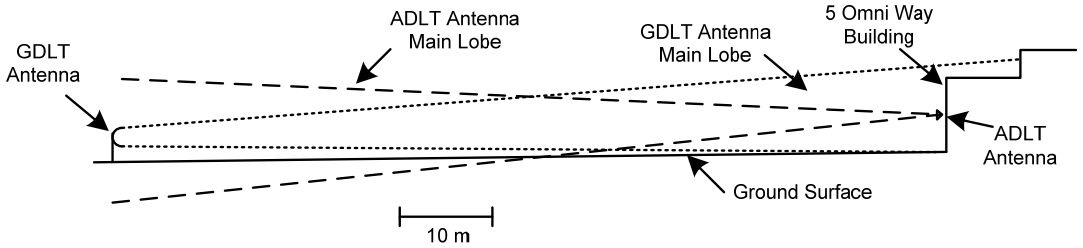


Figure 4 – Side Elevation of GDLT/ADLT Path and Parabolic Antenna Main Lobe Profiles.

ADLT RFE Output Power

(Fig. 2) The ADLT RFE RF amplifier supplies power to the Antennas 1 and 2 at Stations 4 and 5.

(Fig. 2) The ADLT RFE RF amplifier is certified for a maximum output power of 70 Watt CW (+18.5 dBW) circularly polarized in the Ku-Band, at 14.825 GHz. The output of the ADLT RFE is connected to a 175 Watt capacity fixed load through a directional coupler. The coupler feeds -20 dB of the RFE output to a 2-position RF Switch.

Second Location, Station 4, Antenna 1 - ERP

(Fig. 2) The ADLT 9.5" Parabolic Antenna is connected to one port of the RF Switch with a -10dB fixed attenuator. The total attenuation of RFE output through the switch and attenuator to the 9.5" Parabolic Antenna is at least -30 dB. The gain of this antenna is +24.6 dBic. Additional losses in the connections, including coupler and RF switch losses, are not included. The maximum possible output power of the ADLT RFE is 70W (+18.5 dBW). The actual output power of the ADLT RFE will be between the minimum specified of 35W (+15.5dBW) and 50 W (+17.0 dBW). The resulting maximum ERP is 12.2 W.

Second Location, Station 5, Antenna 2 (Mobile) - ERP

(Fig. 2) The 15dBi Horn Antenna is connected to the other output port of the RF Switch with various lengths of coax cable up to 30m, providing an attenuation at 14.825 GHz of at least -10dB. This antenna will be mounted on a tripod and moved up to 30m east to west along the NW side of the facility from the ADLT position. The total attenuation of RFE output to the +16dBi Horn Antenna is at least -30 dB. The maximum gain of this antenna is +16dBi at 14.825 GHz. Other losses in the connections, including coupler and RF switch losses, are not included. The actual output power of the ADLT RFE will be between the minimum specified of 35W (+15.5dBW) and 50 W (+17.0 dBW). The resulting maximum ERP is 840mW.

GDLT RFE Output Power

(Fig. 2) The GDLT STE's RFE RF amplifier outputs a maximum rated power of 11.5 Watt CW (+10.6 dBW) circularly polarized in the Ku-Band, at 15.15 to 15.35 GHz. The output of the GDLT RFE is connected to a 175 Watt capacity fixed load through a directional coupler.

Third Location, Station 6, Antenna 3 - ERP

(Fig. 2) The GDLT STE RFE RF amplifier supplies power to Antenna 3 at Antenna Station 6. The directional coupler feeds -20 dB of the STE RFE output through a -10 dB attenuator to the GDLT STE 48" Parabolic Antenna. The total attenuation of GDLT STE RFE output to the 48" Parabolic Antenna is at least -30 dB.

The maximum gain of this antenna is +41dBic in the 15.15 to 15.35 GHz band. Losses in the connections, including coupler losses, are not included. The maximum possible output power of the STE RFE is 11.5 W (+10.6 dBW). The actual output power of the GDLT STE RFE will be between the nominal output rated 5.0 W (+7.0dBW) and the minimum specified at 2 W (+3.0dBW). The resulting maximum ERP is 87.0 W.