MODULE 08 FIELD EXERCISE

Remote the Emitter over Reclaimed Infrastructure

TASK: Remote an emitter away from your position and reach it over reclaimed infrastructure, proving the link carries traffic while your own position radiates nothing. Site the emitter at a separate location, build the path back on one reclaimed bearer (a repurposed dish link, a reclaimed ethernet run, or a reclaimed phone pair), and pass real traffic across it. Work only on your own side of any demarcation point, and reclaim only wiring you installed or own.

CONDITION: Given an emitter you own and may lawfully operate with power and a site to put it on; the reclaimed bearer (a salvaged dish with a feed cut for a license-free band, an abandoned Cat5e or Cat6 run, or a phone pair you installed or own and have confirmed dead), two endpoints such as the node from Module 01, and the gear to carry and confirm traffic (for the dish, a mount, a compass, and a receiver that shows a signal reading; for a wired pair, a line driver and a cable tester; for ethernet, termination tools and a tester).

STANDARD: The product is a dated record of a remoted emitter reached over reclaimed infrastructure. It states where the emitter was sited, how far it stands from your position and what lies between them; the hardware reclaimed; the link parameters for the bearer you built (for the dish, the derated gain and the final azimuth and elevation; for ethernet, the run length and the negotiated rate; for the phone pair, the pair confirmed dead and the line-driver rate); and the traffic delivered across the link, a file transferred or a connection held, with its size or duration. The link is Quiet at your end: with it up and carrying traffic, a receiver at your own position finds nothing radiating there, because the emission is at the remoted site. All work stayed on your own side of any demarcation point. The ethernet and dish paths are buildable now; the phone-pair path is buildable once you have confirmed the pair is dead by the test-before-touch rule of Unit 08.

> **SAFETY FIRST**
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> Reclaim only wiring you installed or own, and only on the subscriber's side of the demarcation point. Never open, cut into, or connect to the carrier's protector or anything on the carrier's side of the demarc. Before touching any phone pair, read it with a meter first: any voltage on the pair, or a dial tone, means the line is live and is not your dead pair, so stop and walk away. Keep dish and feed clear of every overhead power line while raising, moving, or lowering it. Do not transmit on a repurposed dish without the license the band requires.

RESOURCES

The salvage method (Module 04): pulling a discarded dish from a roof and stripping it to the reflector and mount, or recovering a cable run, using Module 04's teardown method

The antenna physics (Module 06, Unit 07): the dish gain formula, the aperture-efficiency derate, and the beamwidth that sets the aiming tolerance

Compass with declination: the coarse bearing to the far station, corrected for local magnetic declination, before any signal is peaked

A receiver with a signal-strength reading: whatever readout your salvaged receiver shows (a received-signal number, a link-quality bar, or running throughput) to peak the dish by

A cable tester: end-to-end continuity and wiring test of a reclaimed ethernet run or a driven phone pair before you trust it

A line driver: single-pair ethernet (10BASE-T1L) or DSL gear to carry data over a single reclaimed phone pair

Task 1 · Reclaim the bearer

1. Choose one bearer for the site: a discarded dish, an abandoned Cat5e or Cat6 run, or a phone pair you installed or own. Reclaim only wiring on your own side of any demarcation point.
2. For the dish: pull it down by Module 04's method, strip it to the reflector and mount, and fit a feed cut for a license-free band (2.4 or 5.8 GHz) at the focus. For a cable run: trace it end to end and confirm it is continuous and unpowered. For a phone pair: find the demarcation point and confirm the pair reads dead by the test-before-touch rule before you touch it.
3. Record the hardware reclaimed and, for a wired bearer, that it is on the subscriber's side of the demarc.

Task 2 · Close the link

1. Dish path: set the coarse bearing with the compass, then peak the signal one axis at a time, sweeping slowly and using the overshoot-and-return check to confirm the true peak over a sidelobe. Peak azimuth, then elevation, then lock the mount while watching the reading. Record the derated gain and the final azimuth and elevation.
2. Ethernet path: cut back to good cable and terminate each end on a jack or plug, then test the run end to end. Record the run length and the negotiated rate.
3. Phone-pair path: with the pair confirmed dead, drive it with a line driver (single-pair ethernet or DSL) at both ends, then test it. Record the line-driver rate.

Task 3 · Prove it carries traffic

1. Site the emitter (with its own power) at the remote location and hand its ethernet output to the reclaimed bearer; connect your node at the near end.
2. Transfer a file across the link, or hold a connection open, and record the size transferred or the duration held.
3. Confirm your end is Quiet: with the link up and carrying traffic, sweep your own position with a receiver and record that nothing is radiating there.

Task 4 · Date the record

1. Bring the hardware reclaimed, the link parameters, and the traffic delivered onto one dated record, with photographs of each stage.
2. State the bearer's signature plainly: what a listener could find, and why the bearer is Quiet.
3. Keep any capture files, screenshots, or throughput logs with this sheet.

Task 5 · Field notes

Keep the whole record together: the bearer reclaimed and that it sits on your own side of any demarc, the link parameters for the path you built (dish gain and aim, ethernet run and rate, or phone pair and line-driver rate), and the traffic delivered with its size or duration. Never touch the carrier side of a demarc, and read any phone pair before touching it: voltage or a dial tone means it is live, so walk away.

Link record

This is the record of one working reclaimed link, dated. It states what was reclaimed, the link parameters, the traffic carried, and the bearer's signature.

Item	What you record	This link (date)	Notes
Emitter site	Where the emitter was placed, its distance from your position, and what cover lies between		
Bearer reclaimed	The hardware reclaimed (dish and feed, ethernet run, or phone pair), and that a wired bearer is on the subscriber's side of the demarc		
Link parameters	For the dish, the derated gain and the final azimuth and elevation; for ethernet, the run length and negotiated rate; for the phone pair, that it read dead and the line-driver rate		
Traffic delivered	The file transferred (with its size) or the connection held (with its duration) across the link		
Signature	Why the link is Quiet: a wired bearer that radiates nothing, or a dish aimed to a tight beam		

#	Task	Setting	Expected	Your Result	Pass / Fail
1	Reclaim the bearer	Own side of demarc	one bearer reclaimed wired: confirmed dead / unpowered		
2	Close the link	Two endpoints	link up between two nodes link parameters recorded		
3	Carry traffic	Across the link	file transferred or connection held link confirmed Quiet		
4	The record	Compile	one dated link record signature stated		