

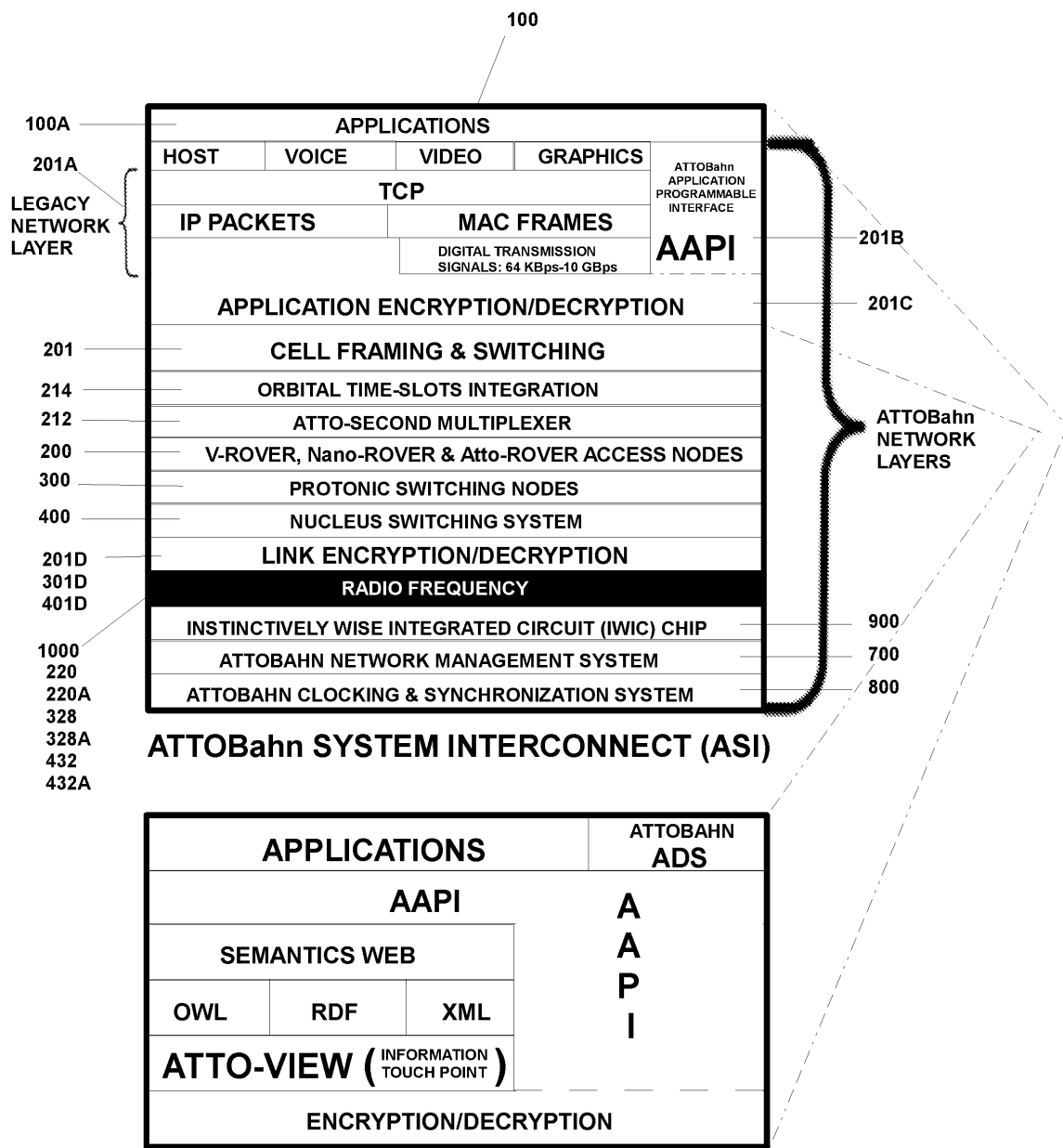


FIGURE 1

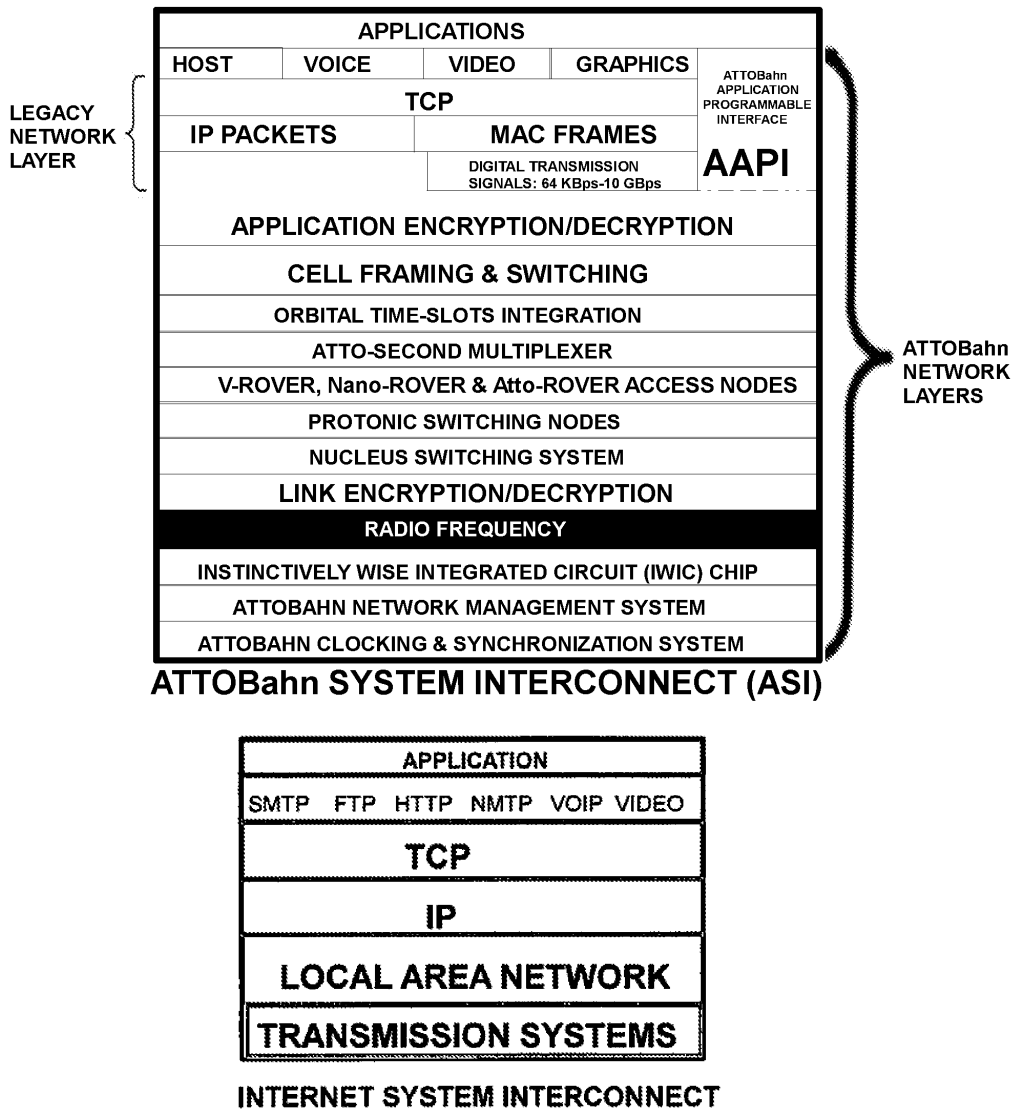


FIGURE 2

ATTOBahn NETWORK HIERARCHY

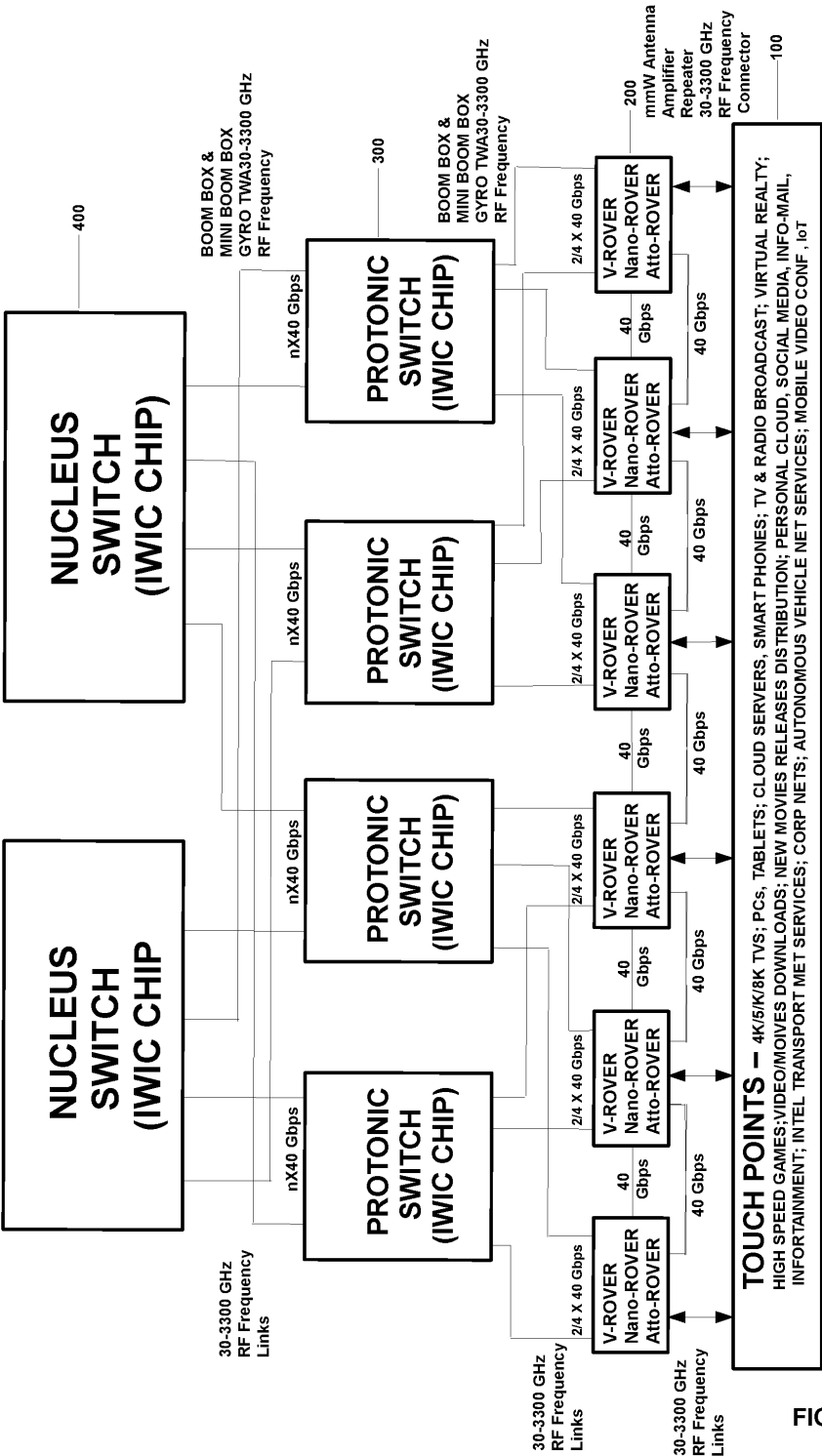
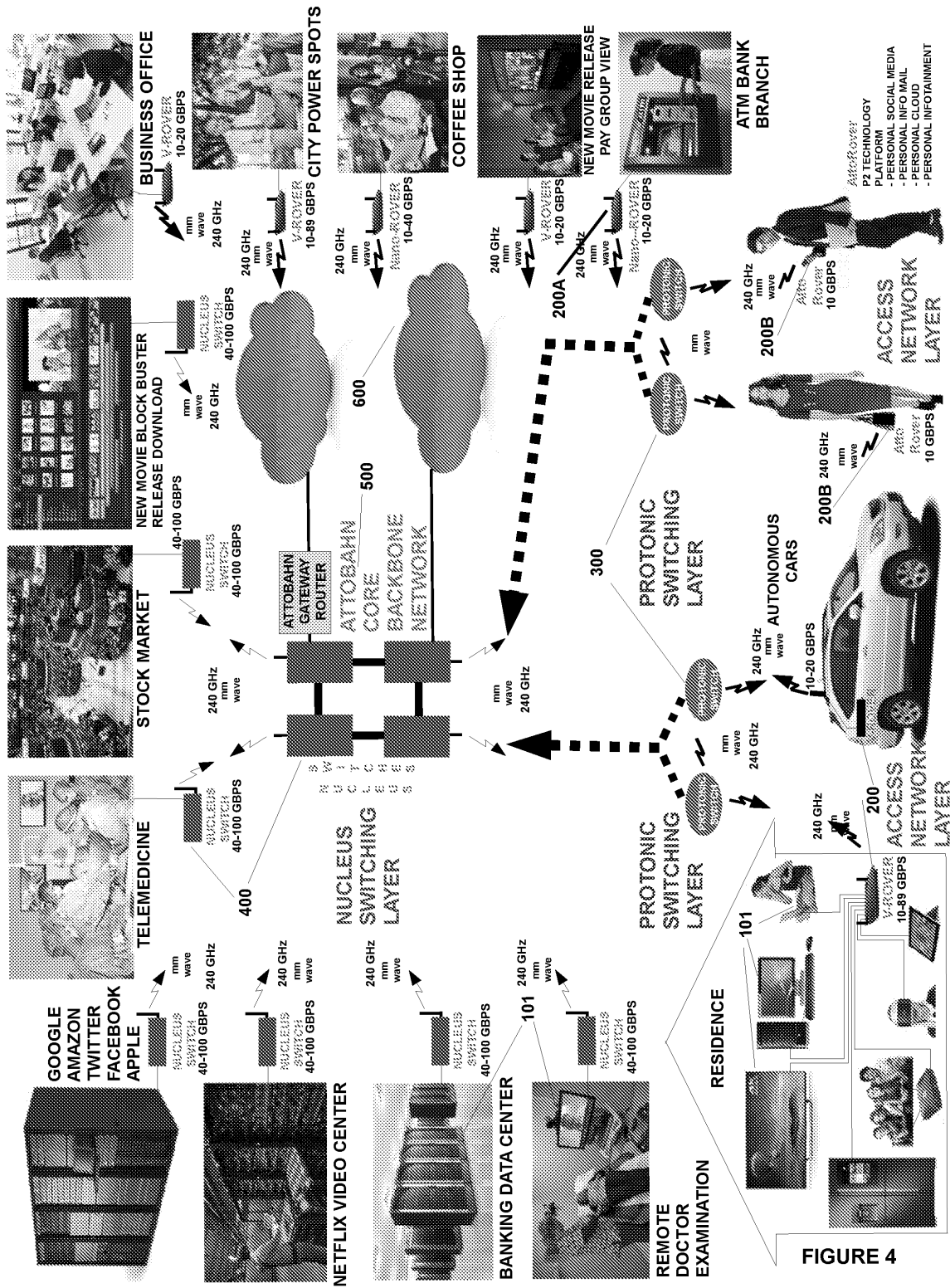


FIGURE 3



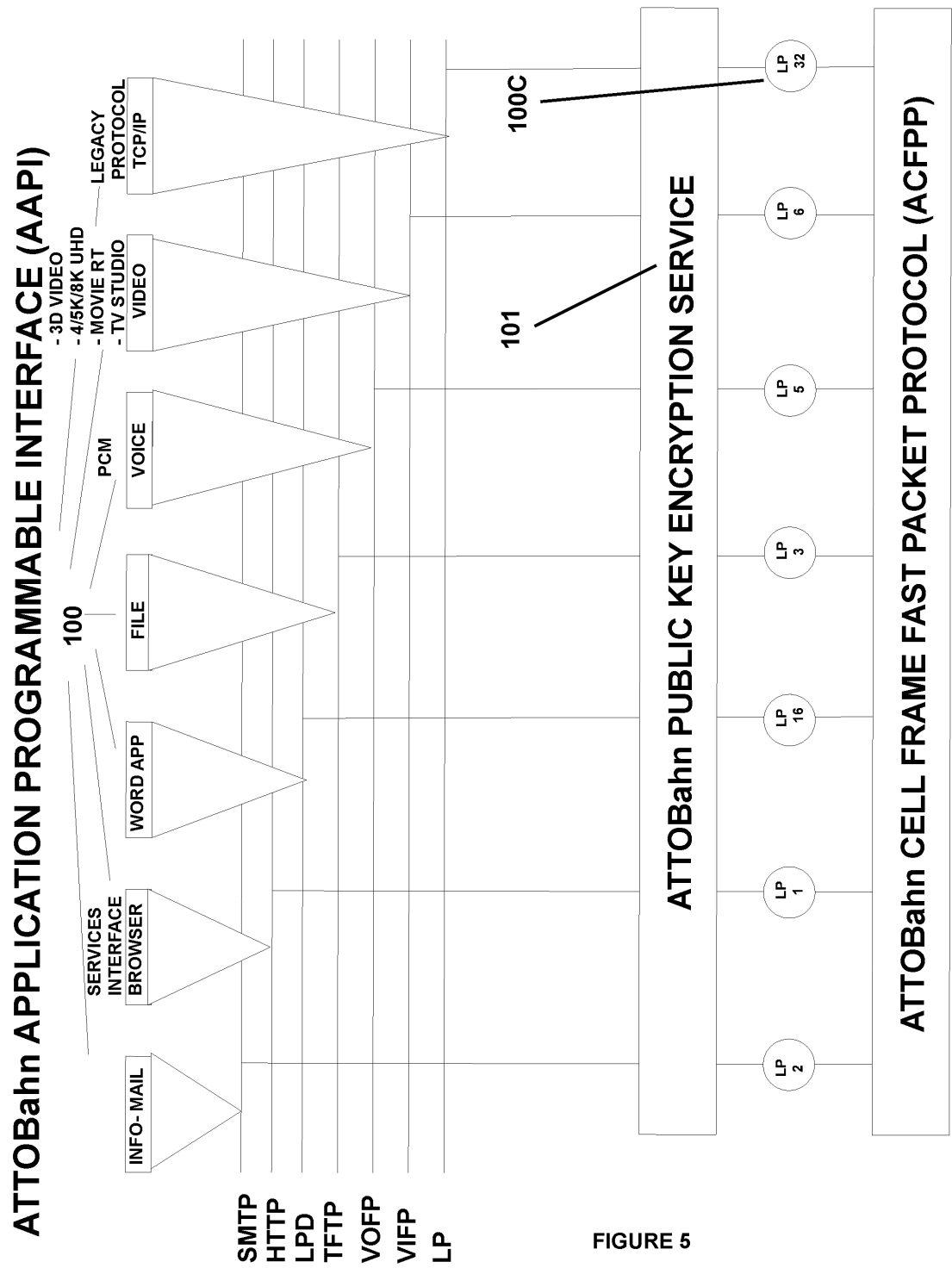
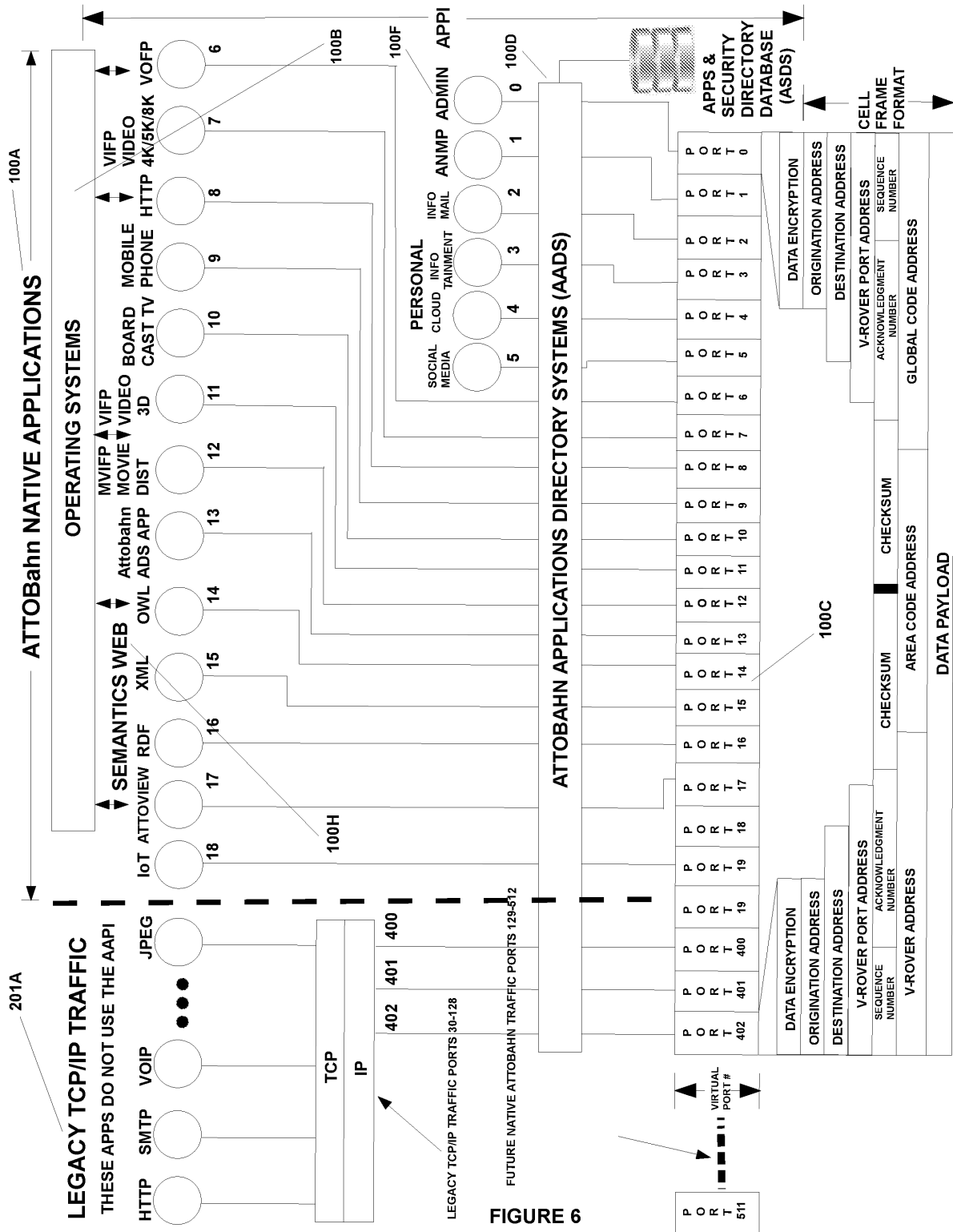


FIGURE 5



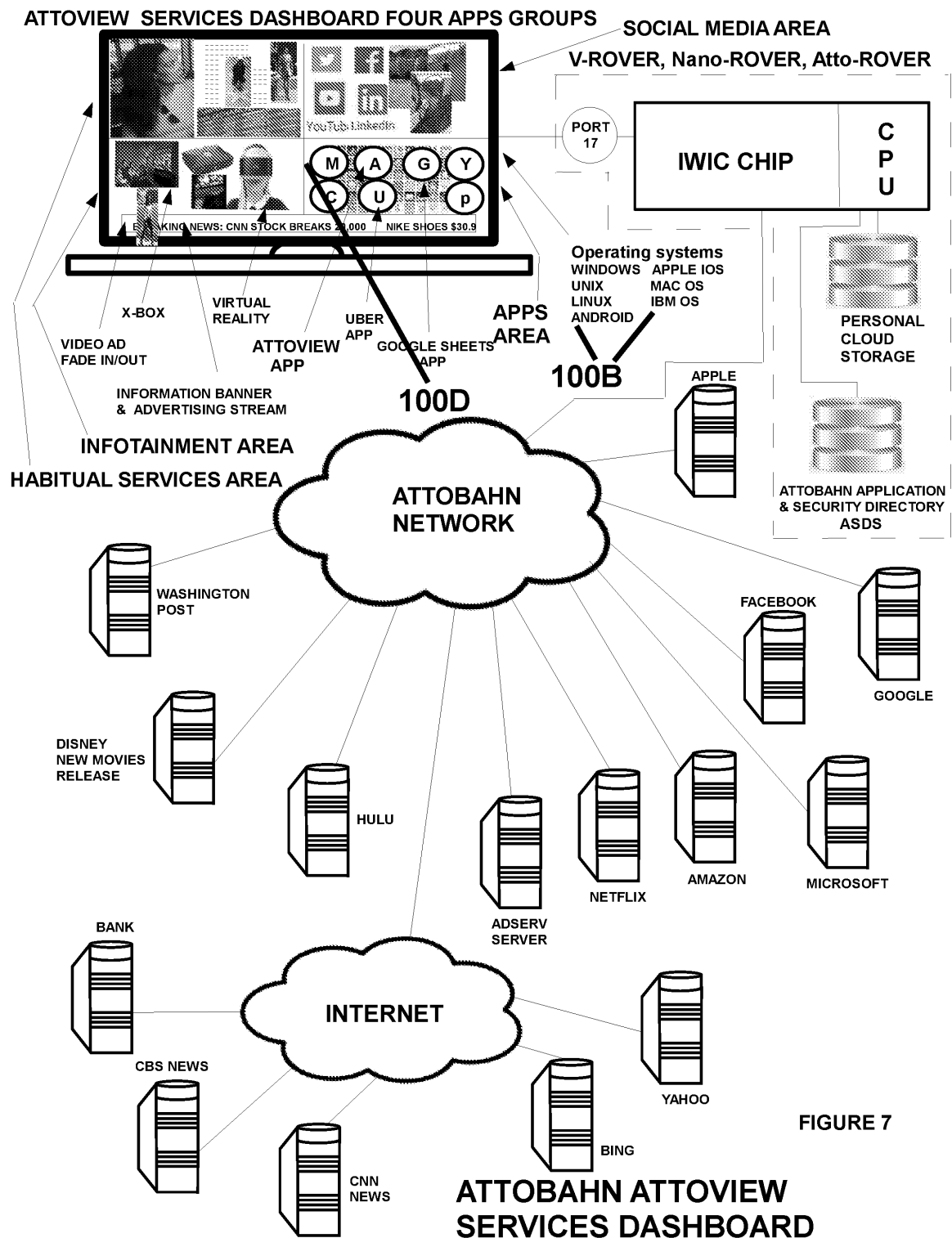
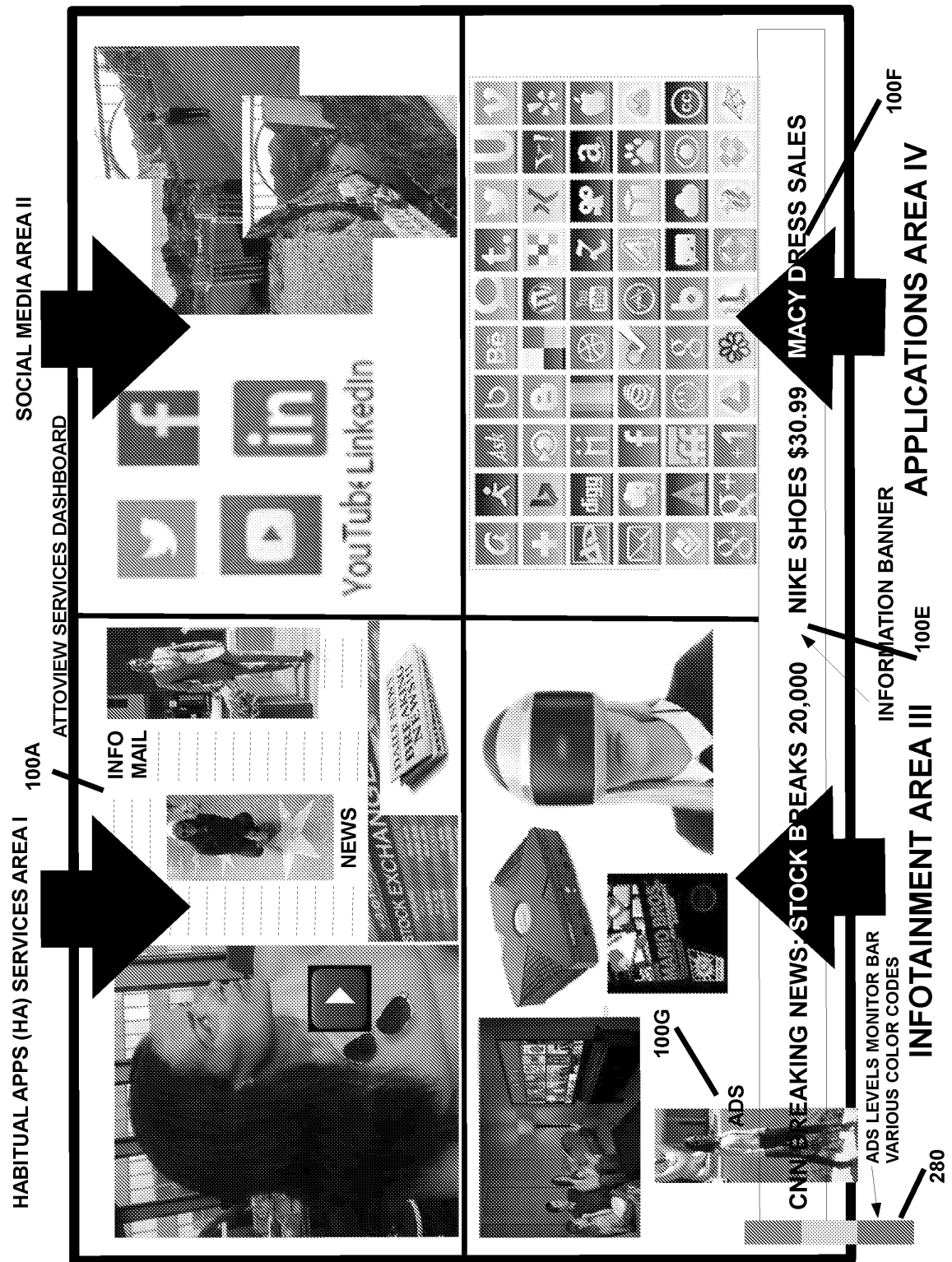
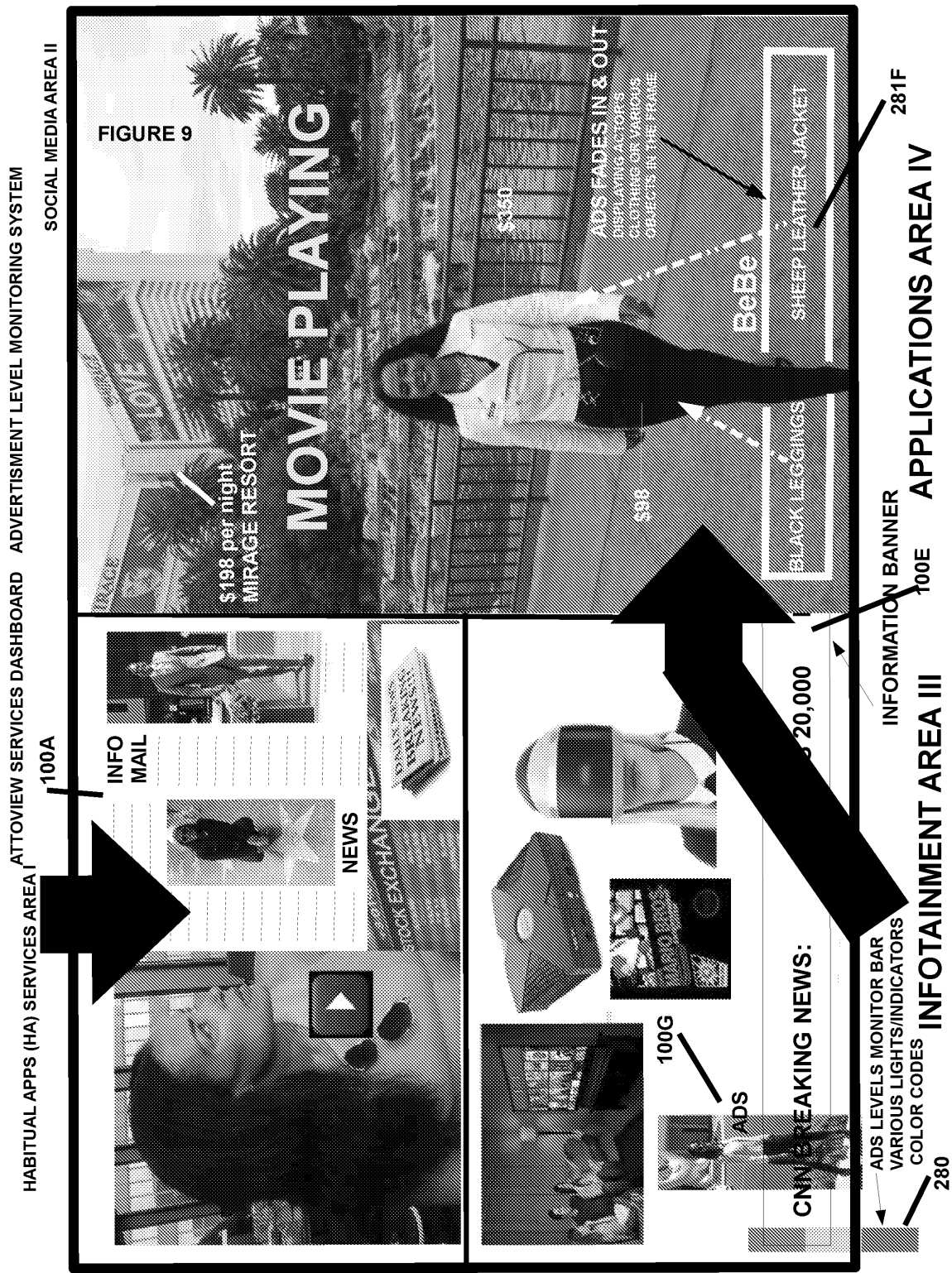


FIGURE 8





ATTOBahn API CELL FRAME ADDRESS SCHEMA

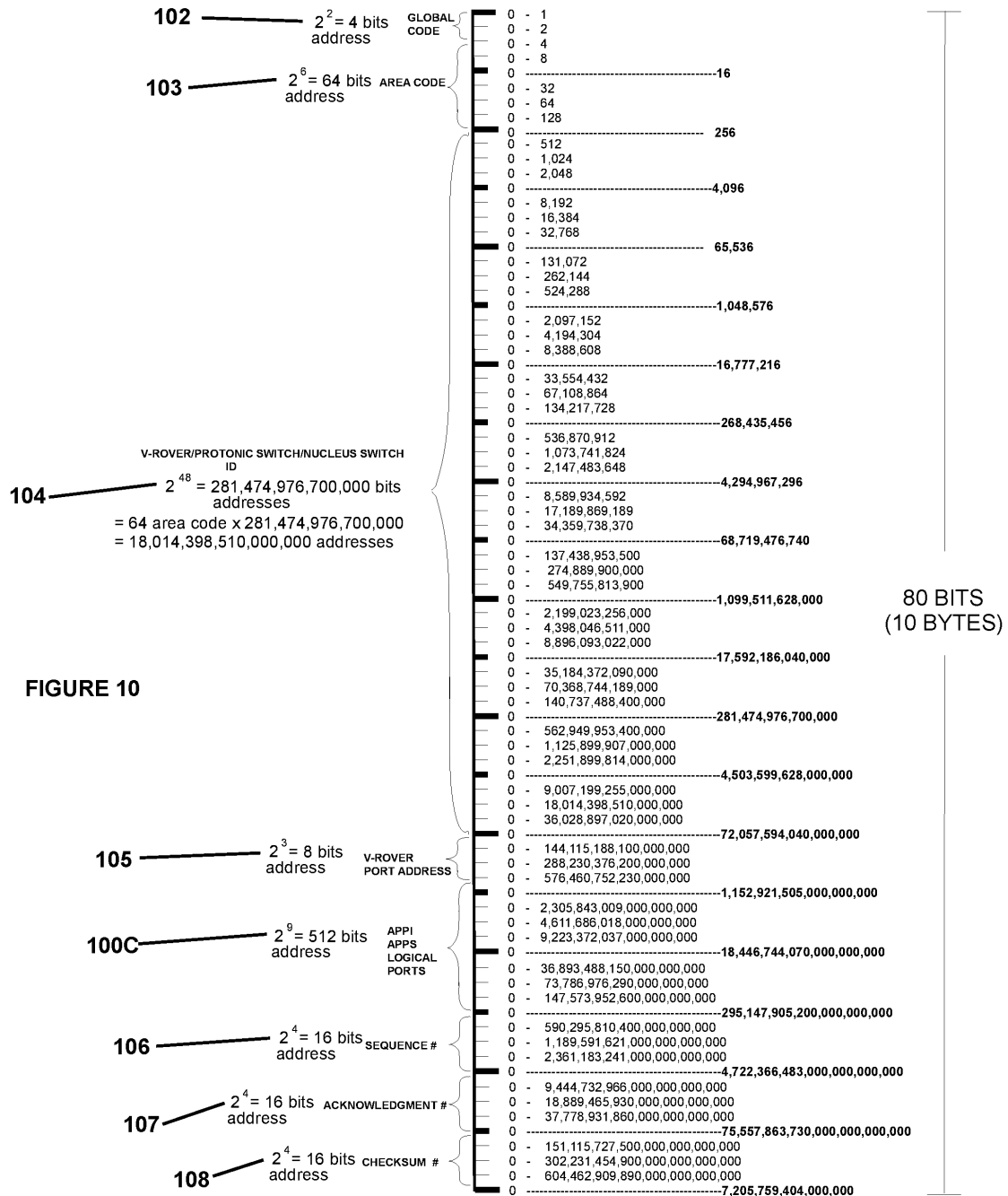
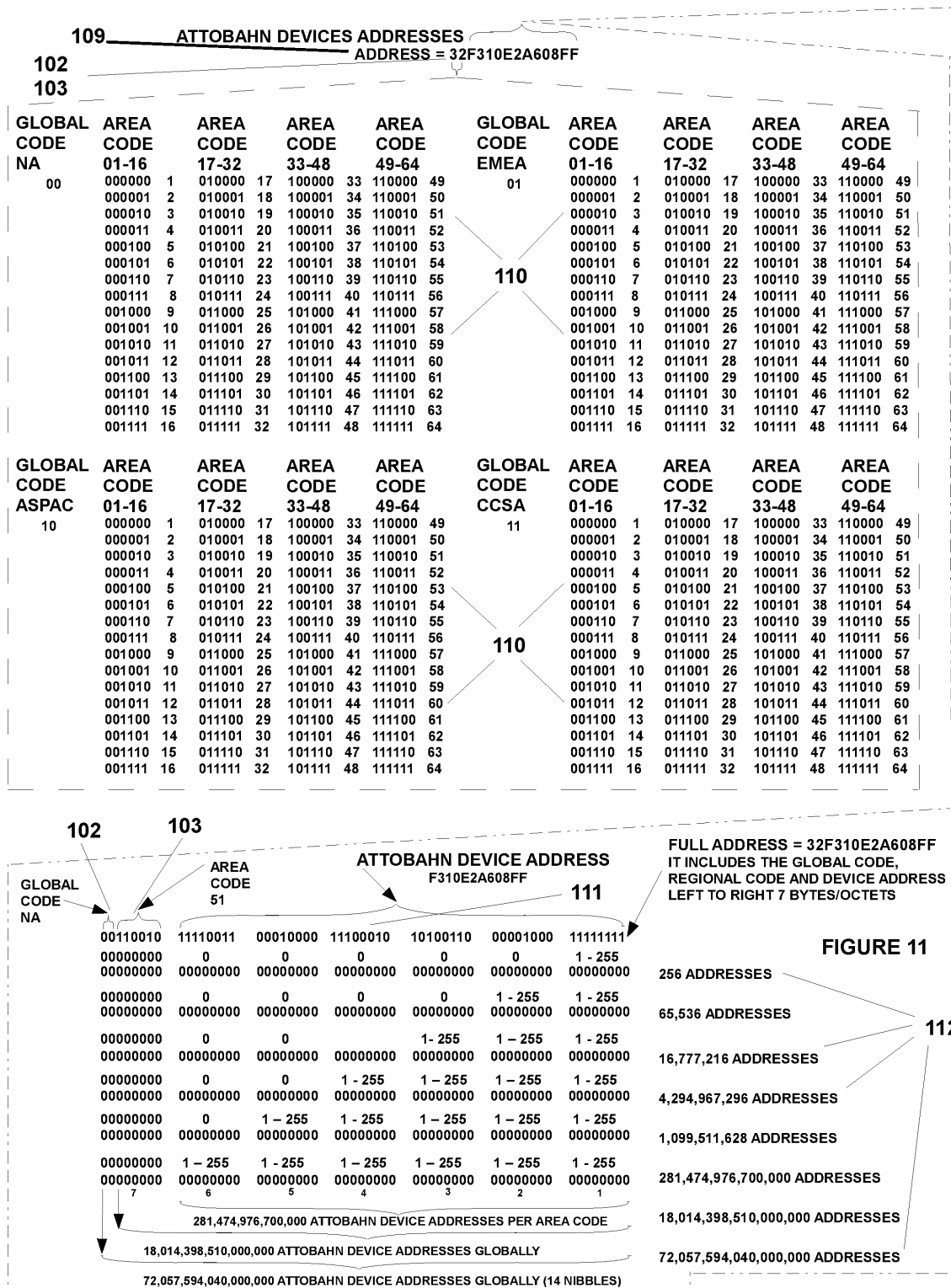


FIGURE 10



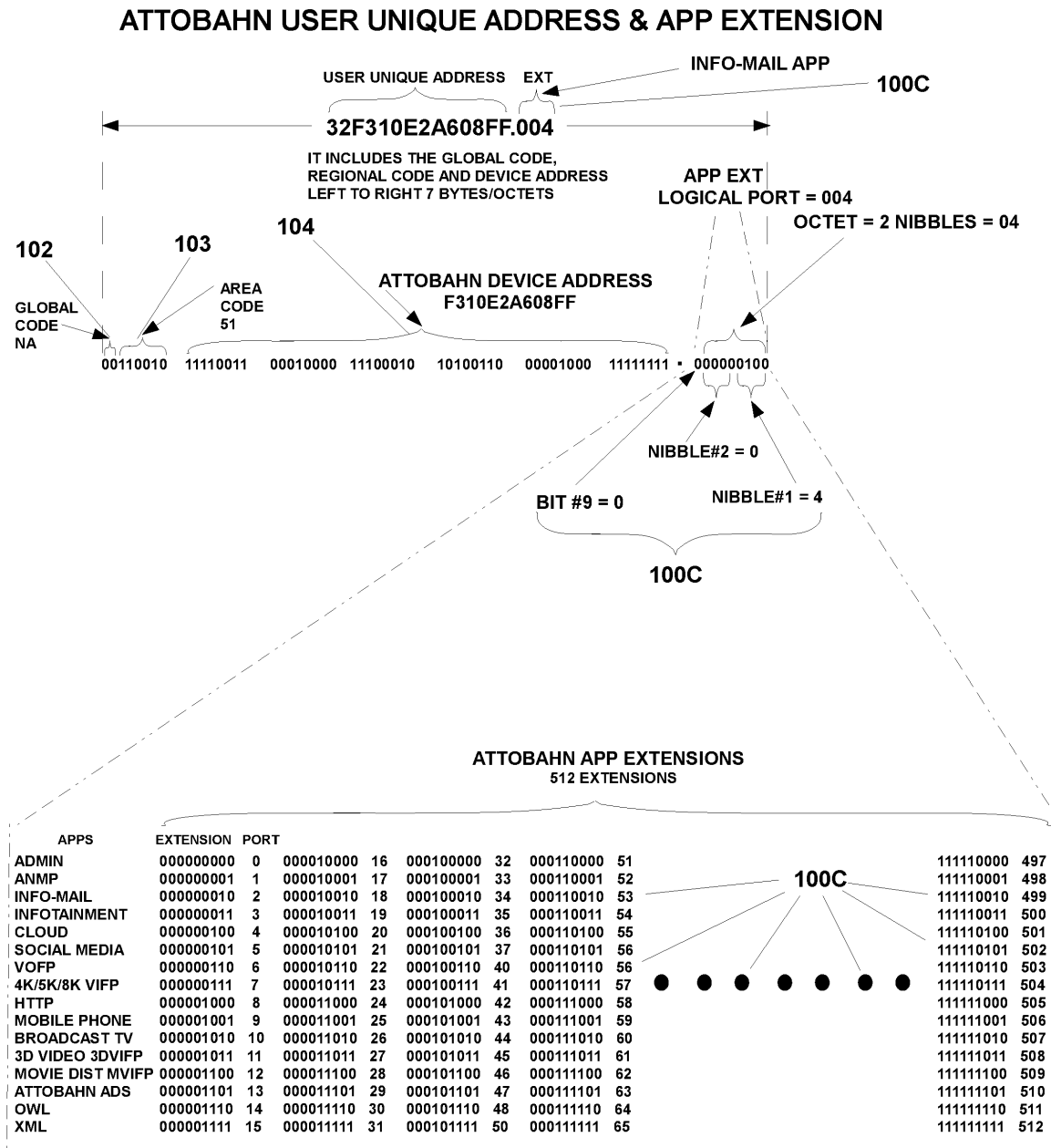
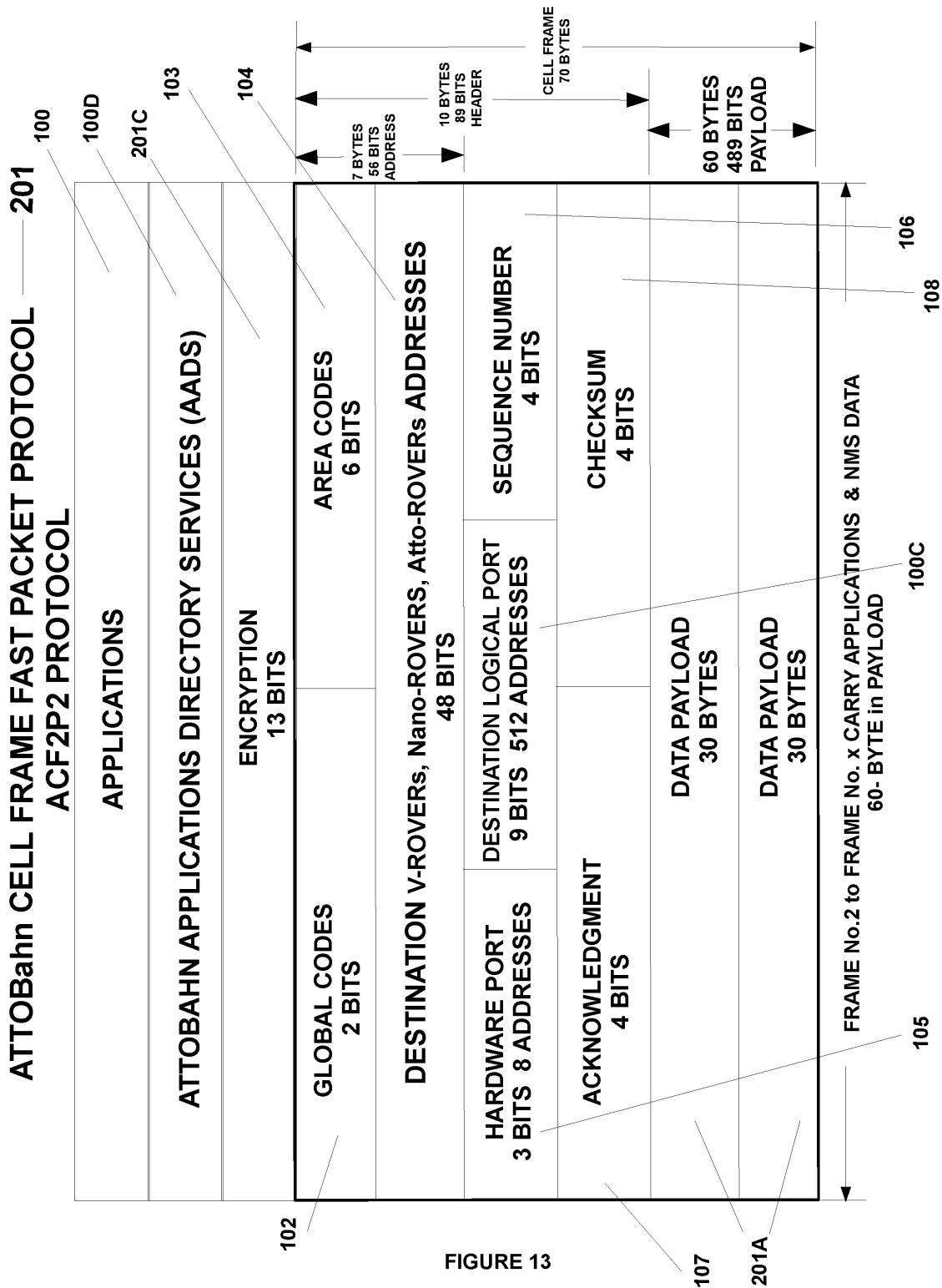
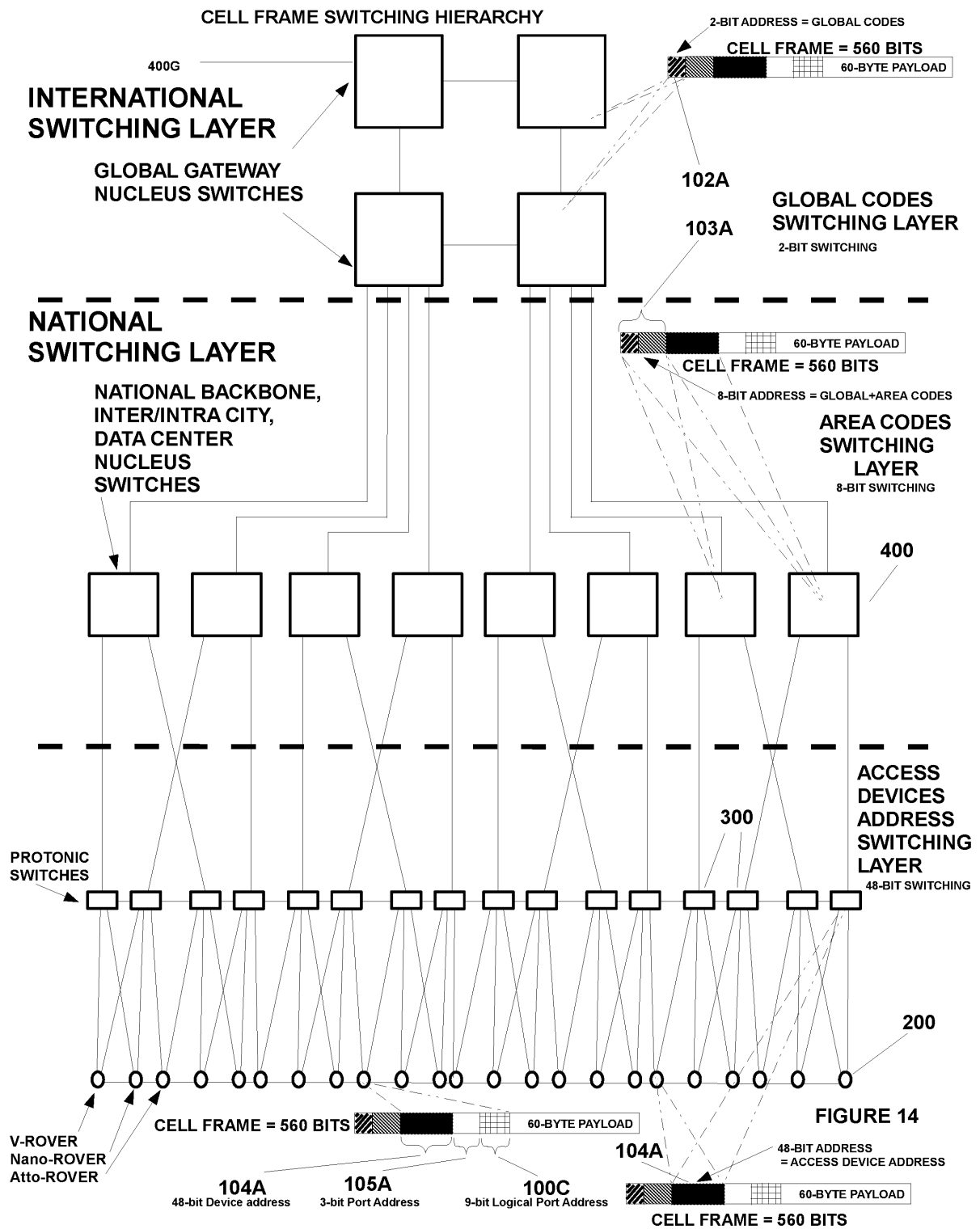
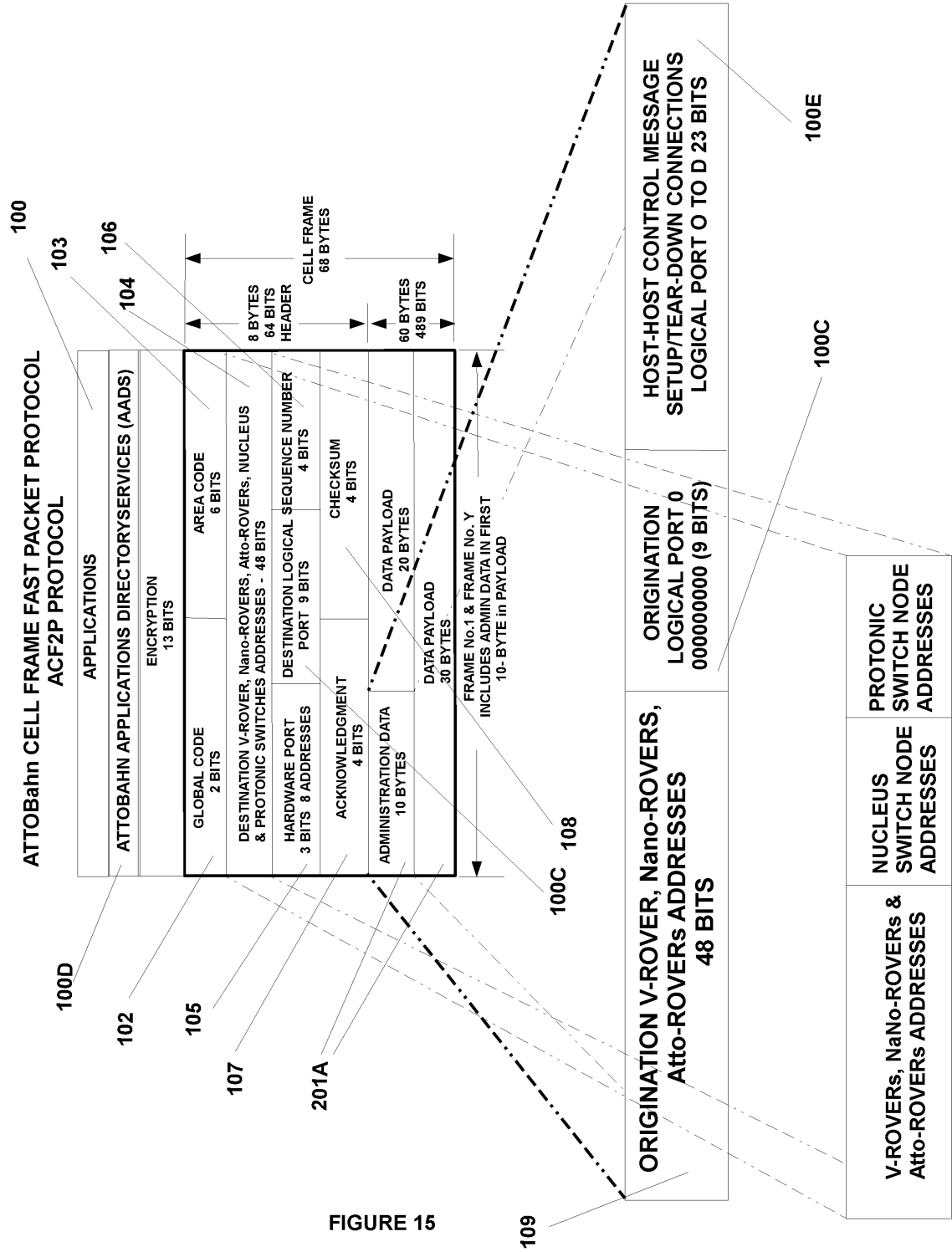
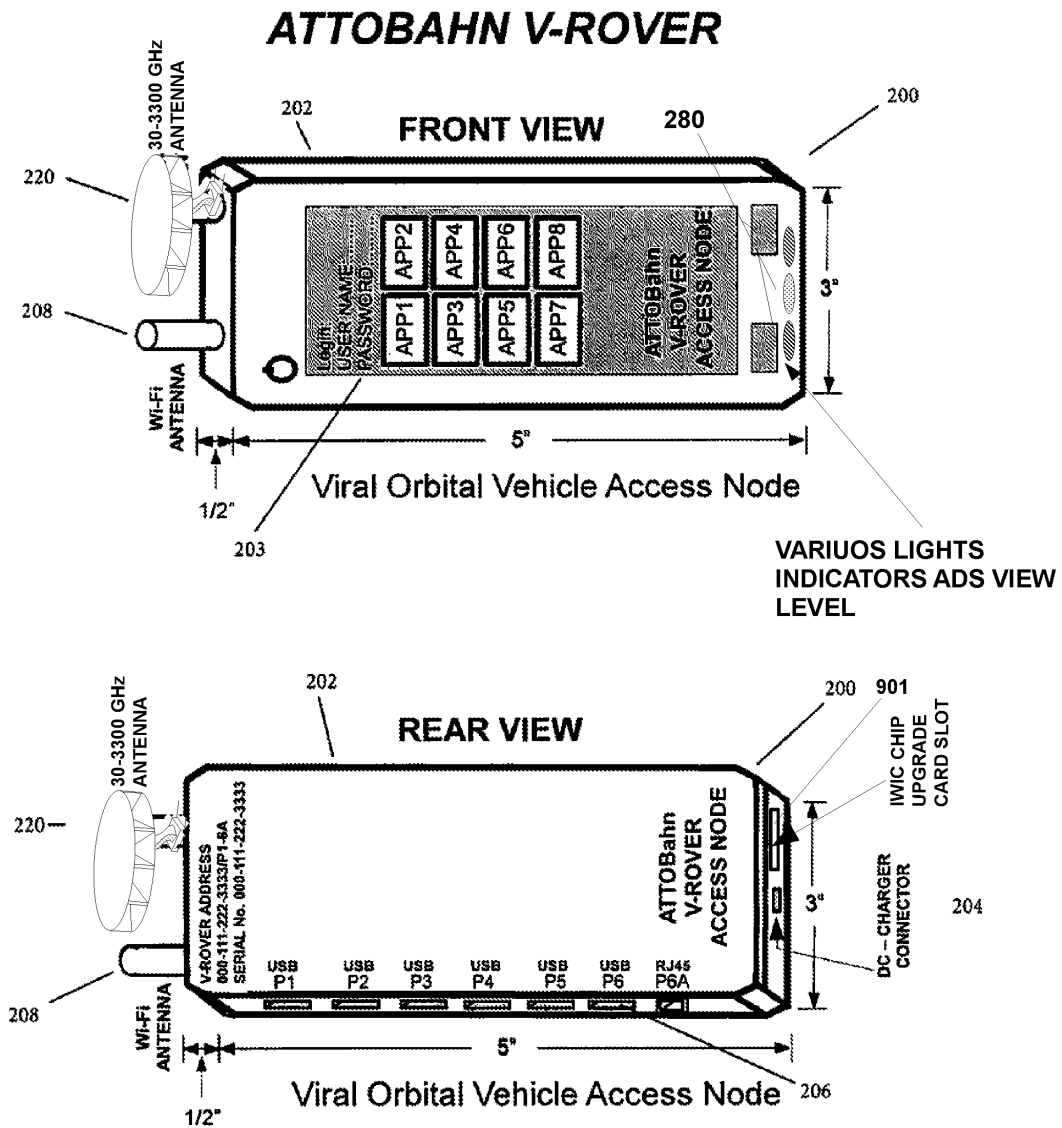


FIGURE 12



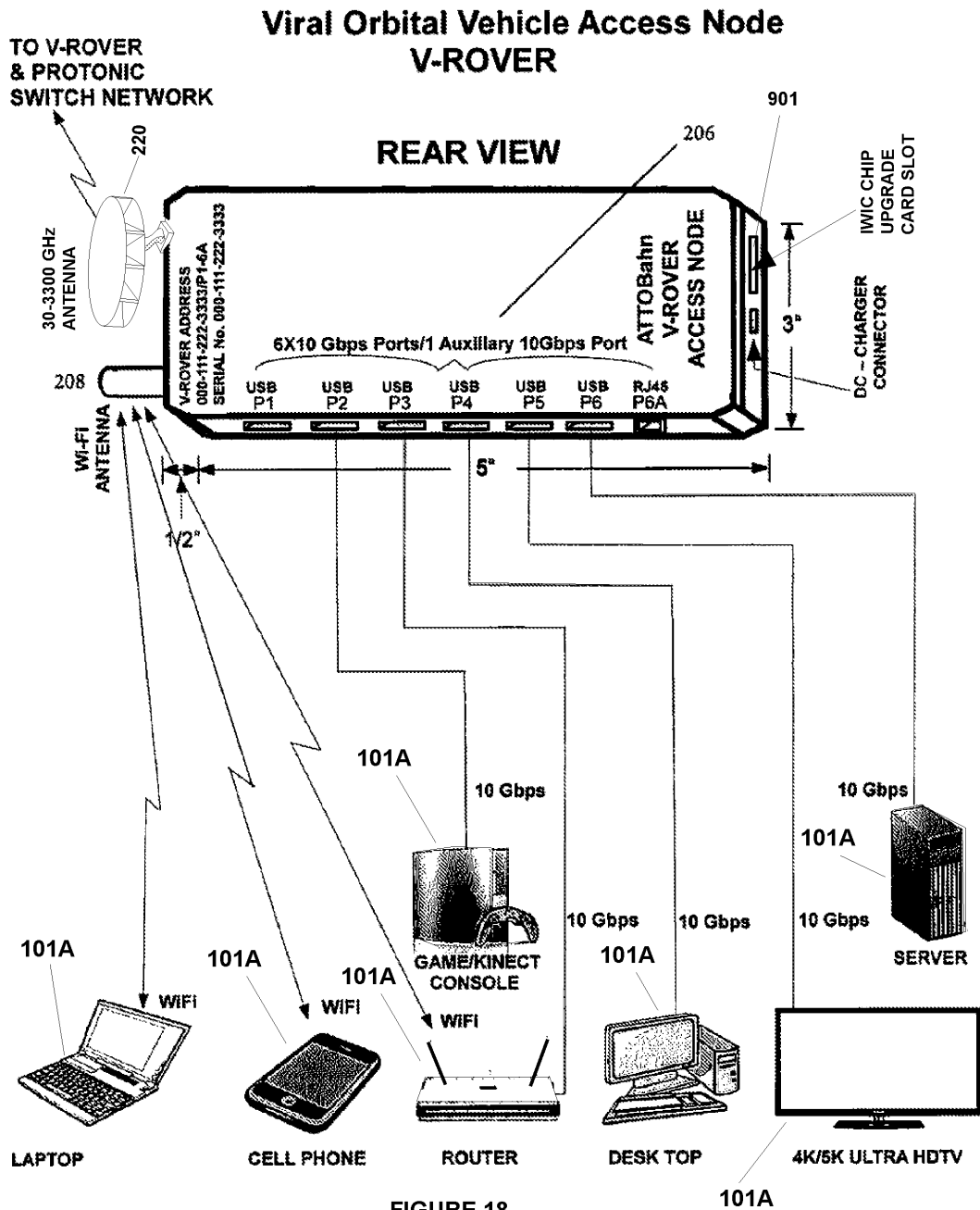






Viral Orbital Vehicle Access Node PHYSICAL LAYOUT

FIGURE 17



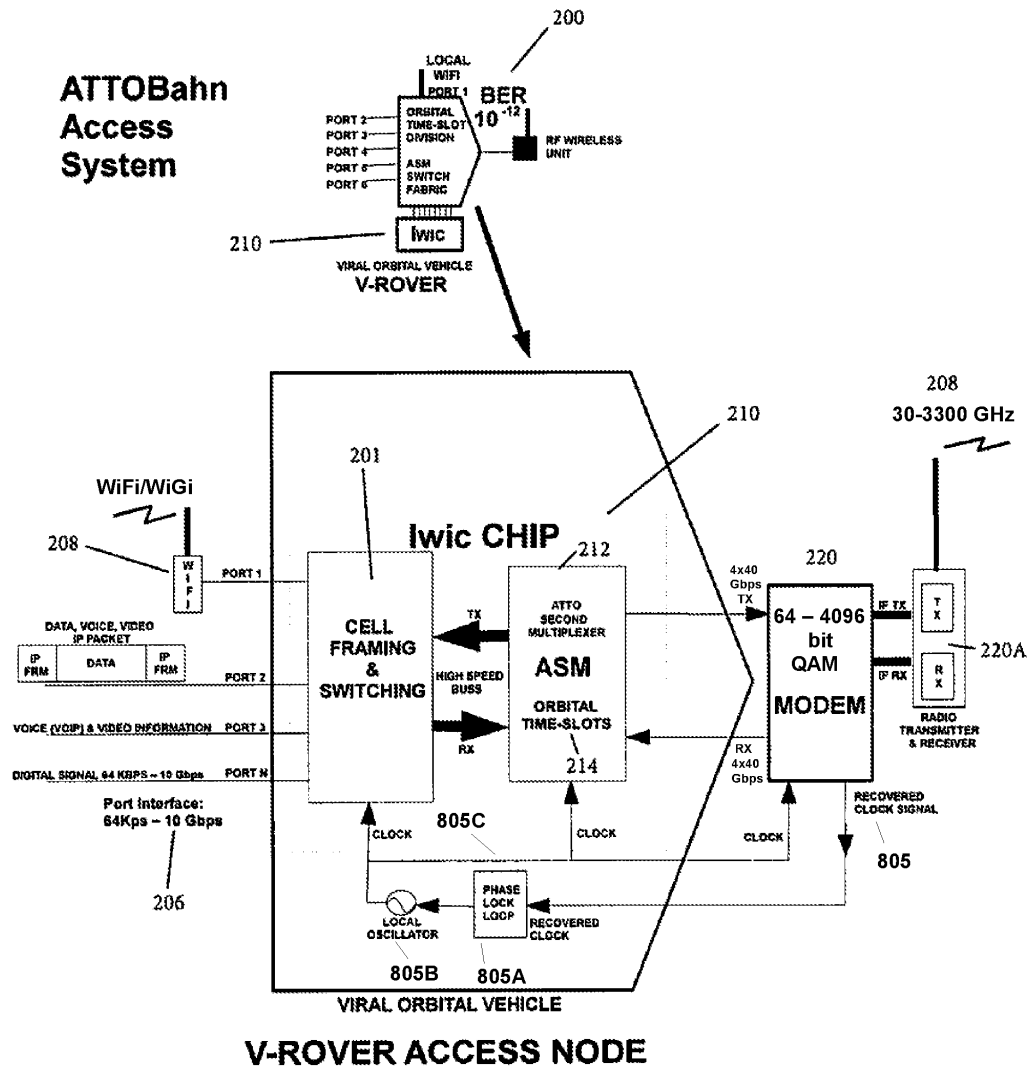
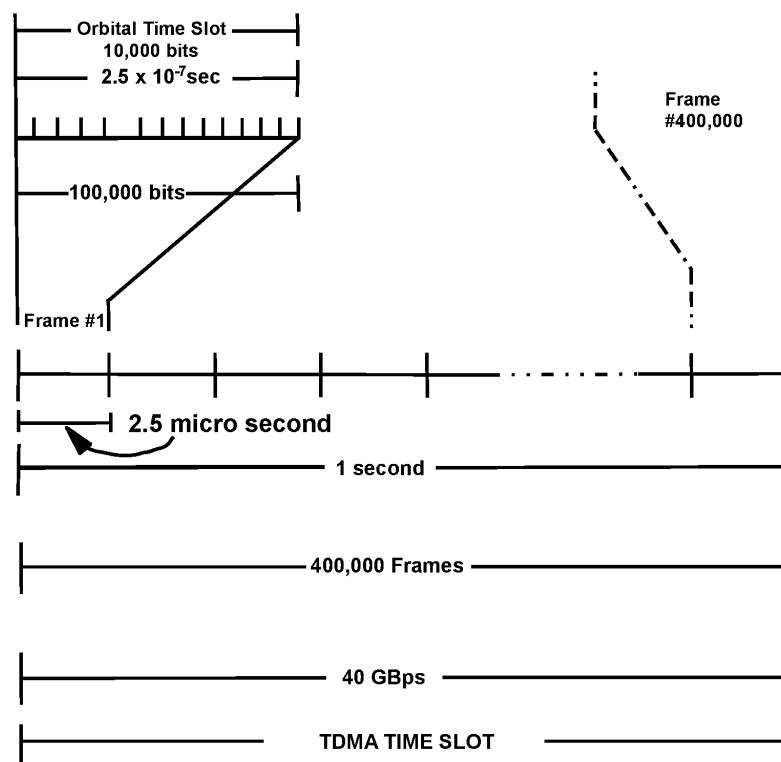


FIGURE 19



Attobahn Atto Second Multiplexer (ASM)
Orbital Time Slots & Time Division Frame

V-ROVER, Nano-ROVER, Atto-ROVER, PROTONIC SWITCH & NUCLEUS SWITCH

FIGURE 20

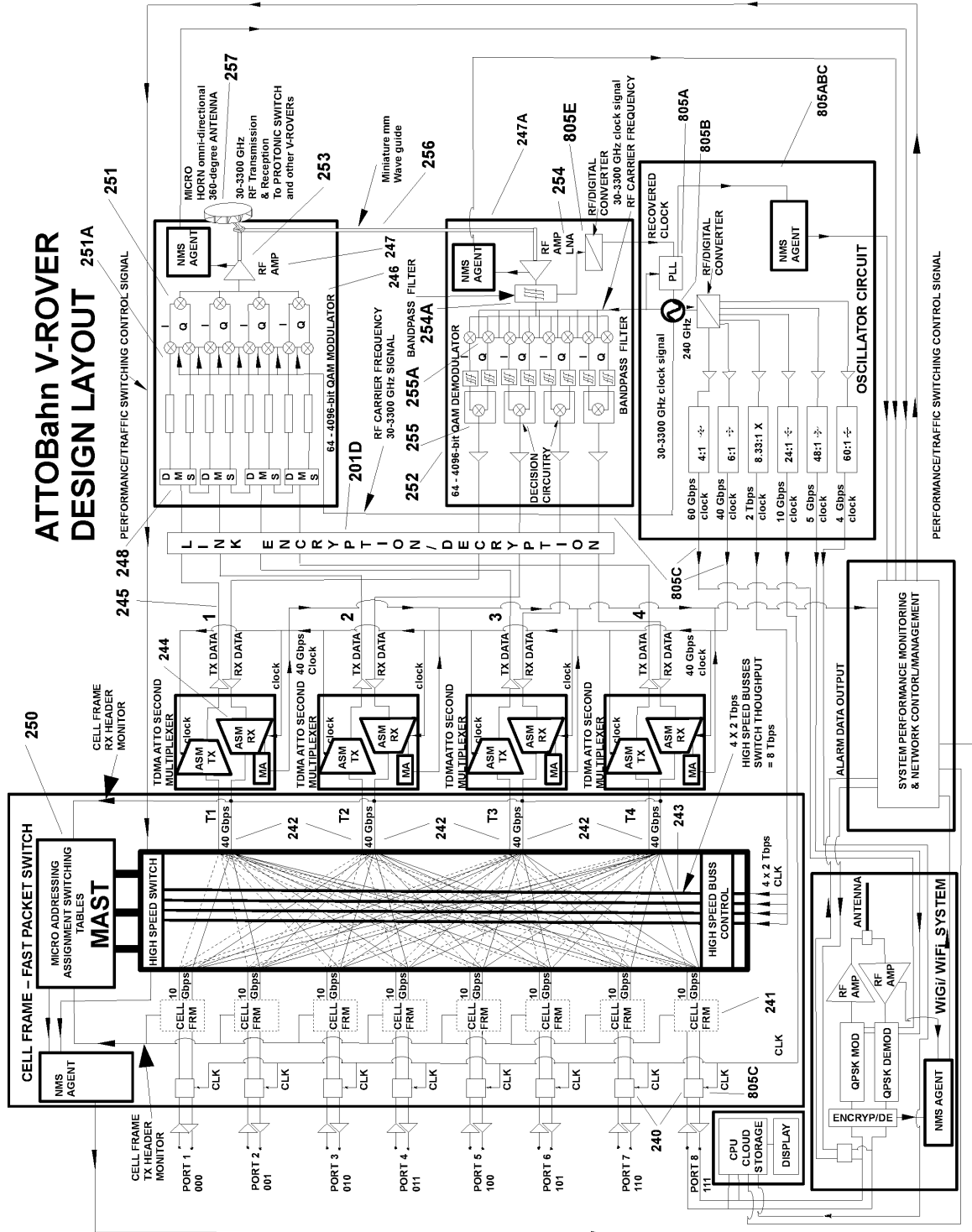
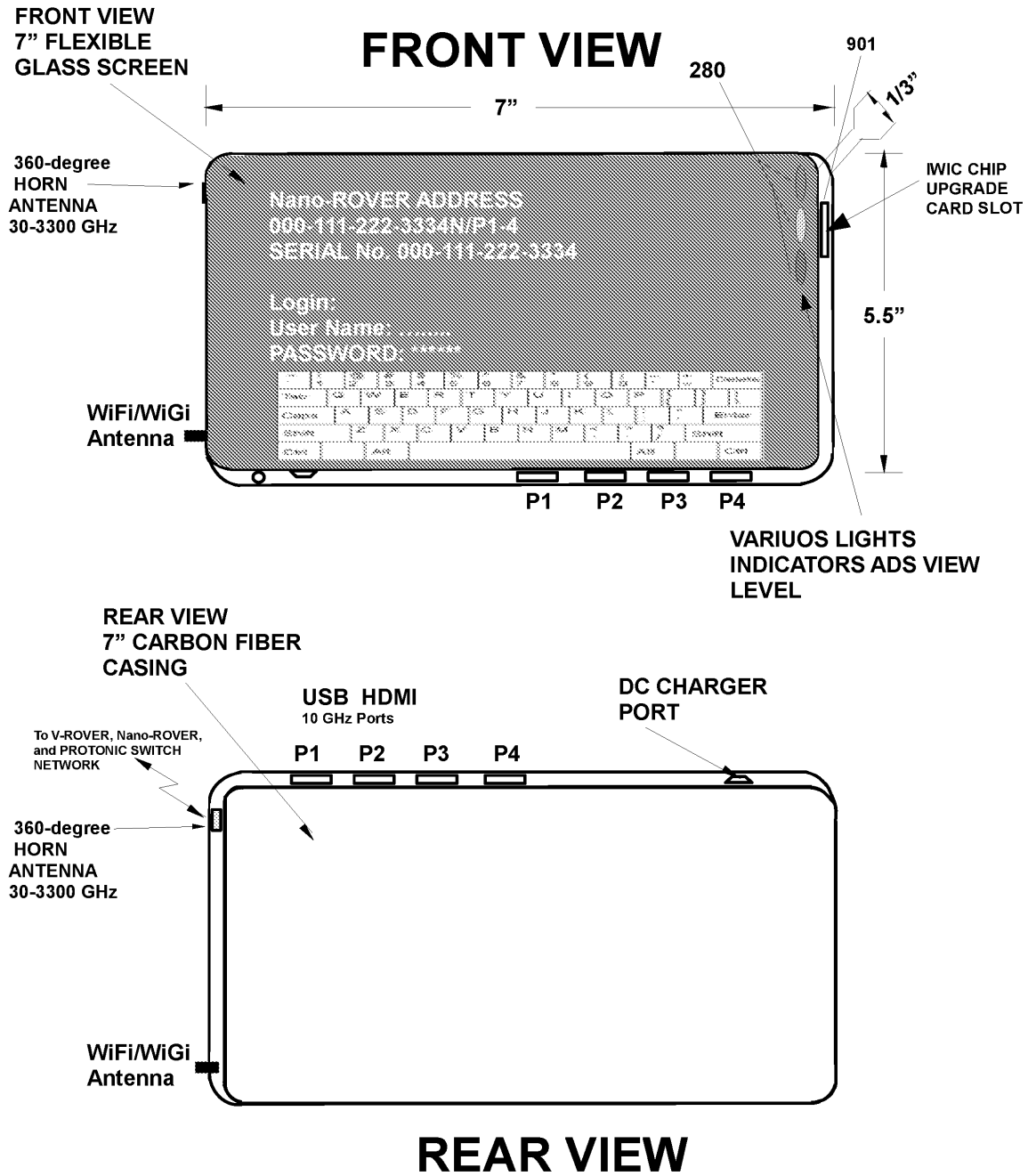
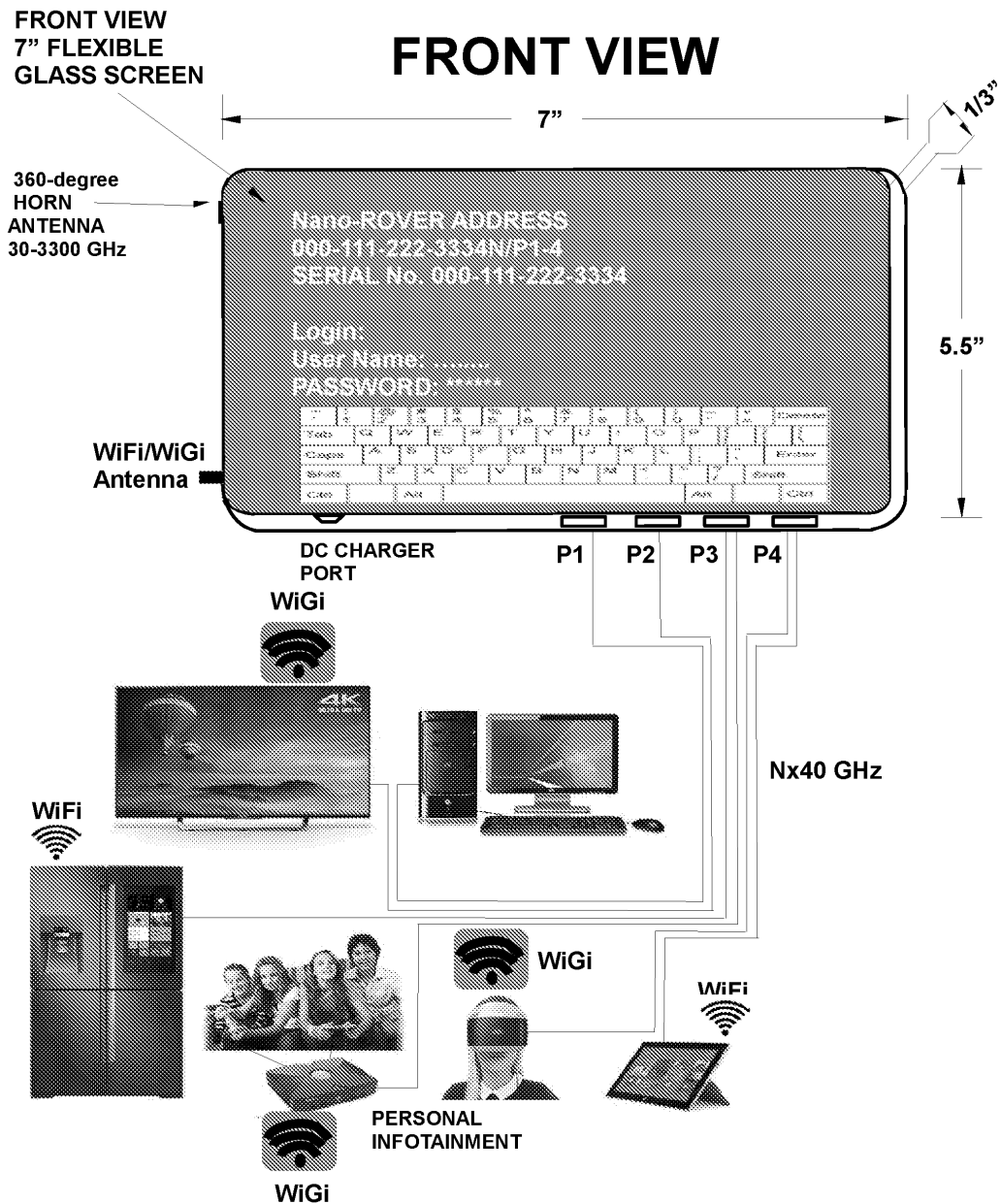


FIGURE 21



Nano-ROVER
Device PHYSICAL LAYOUT

FIGURE 22



Nano-ROVER mmW Device
PHYSICAL CONNECTION

FIGURE 23

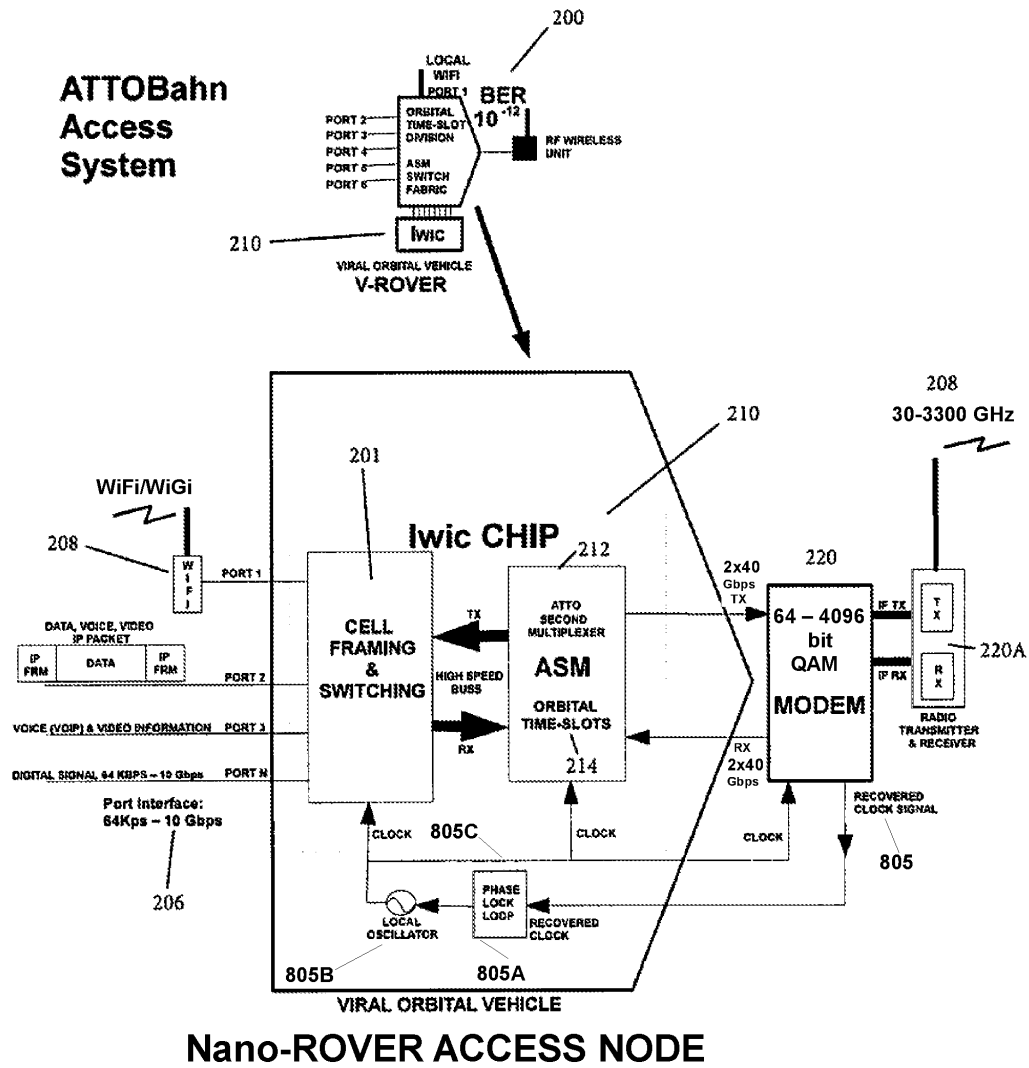
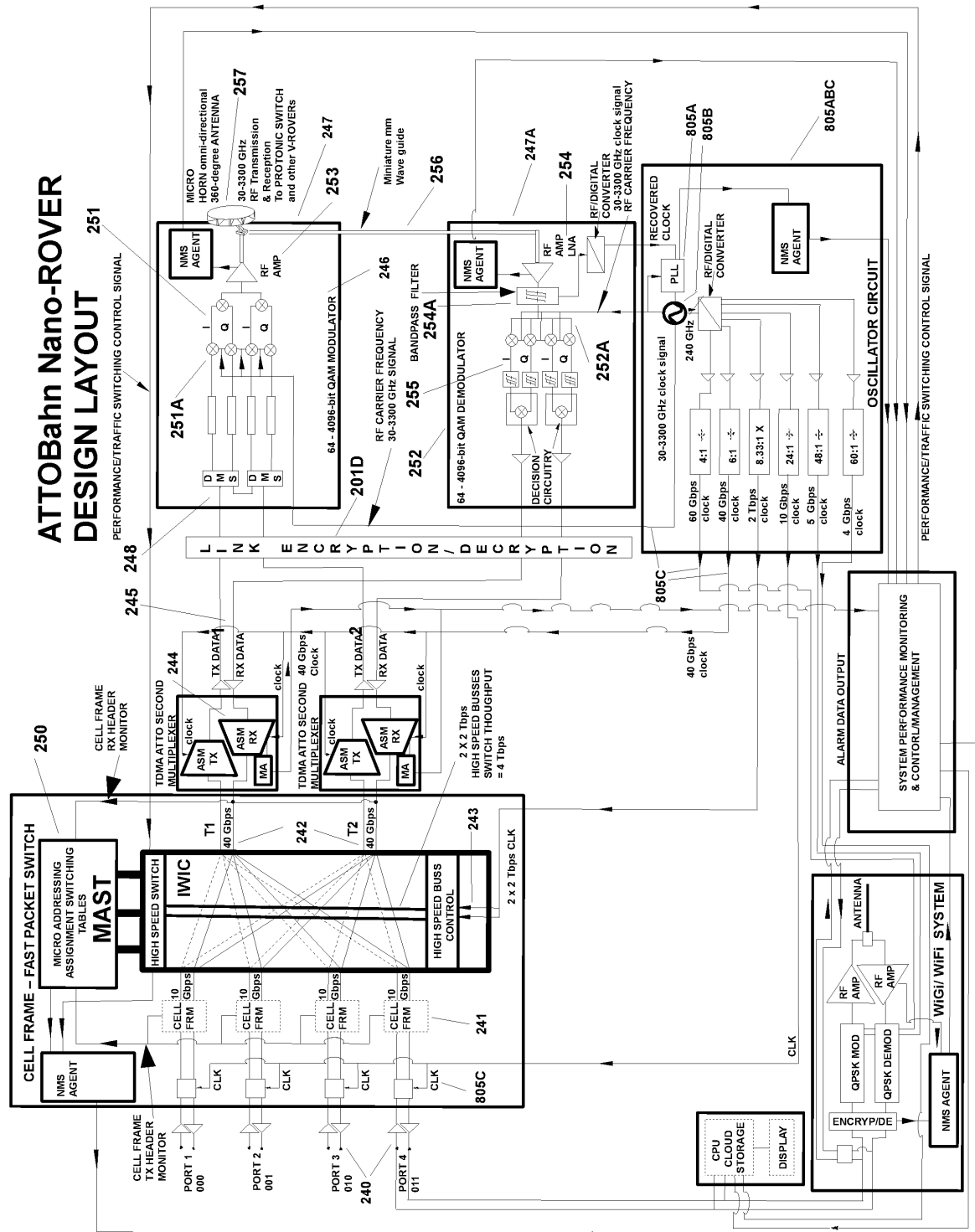
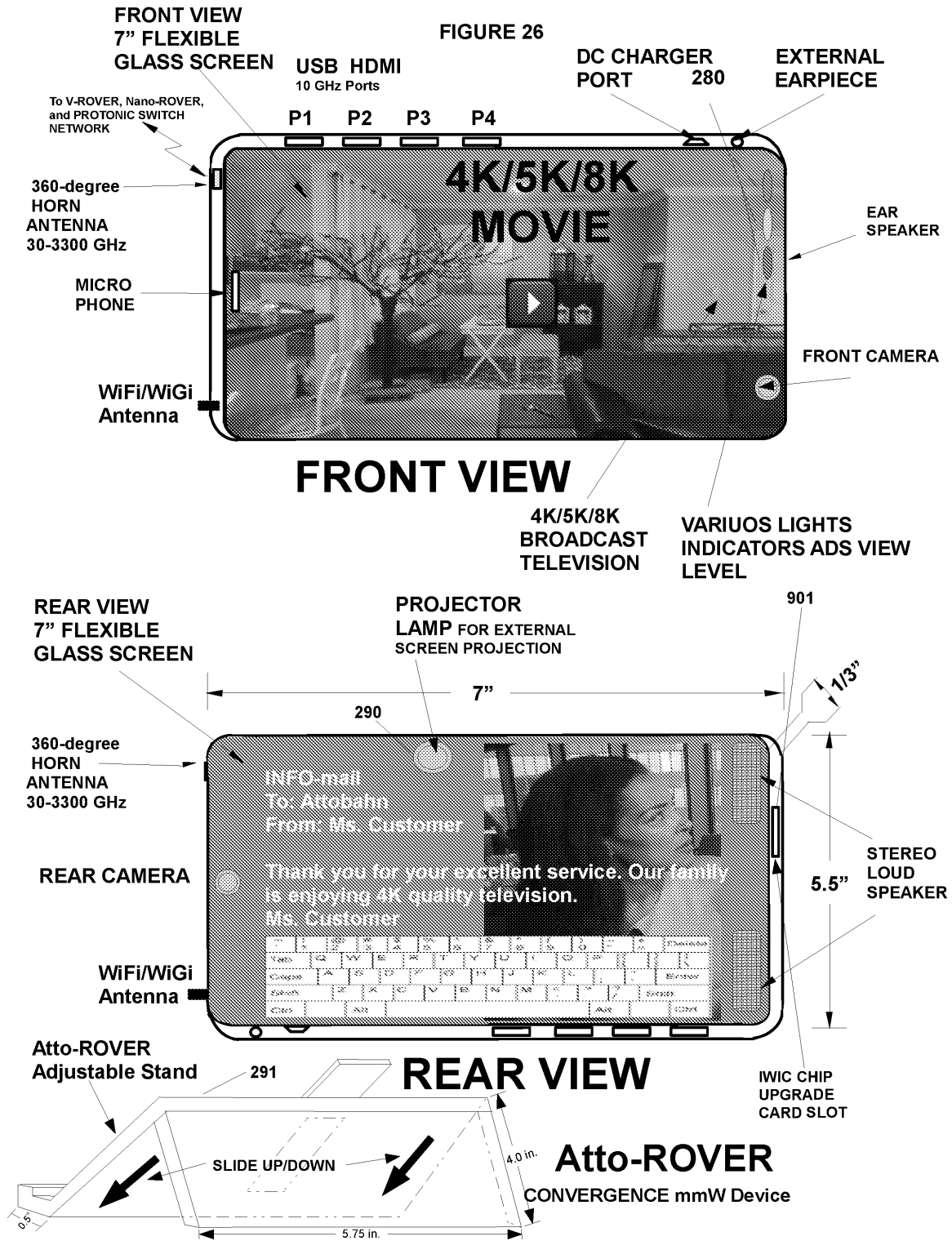
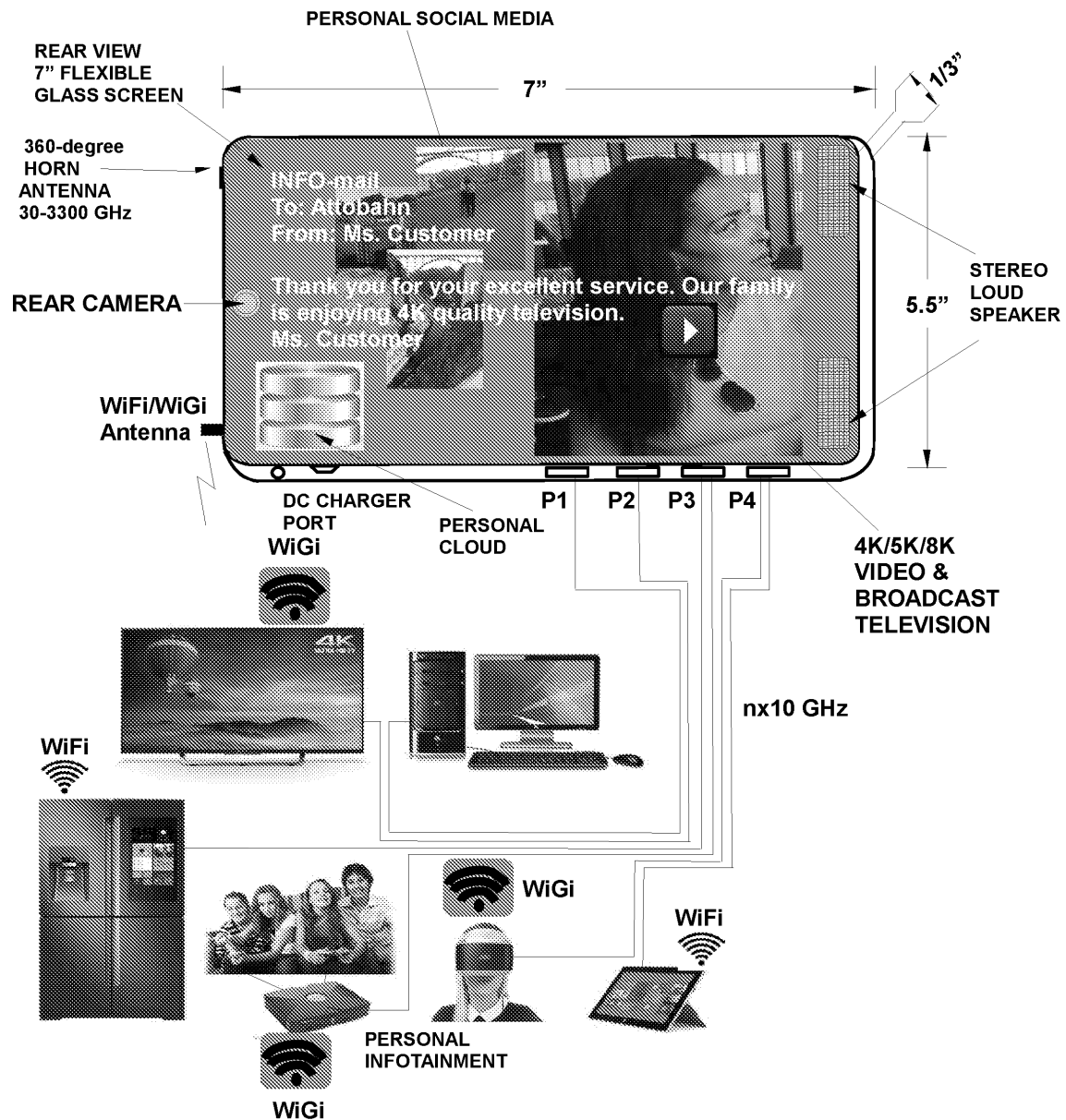


FIGURE 24







Atto-ROVER

CONVERGENCE SERVICES

FIGURE 27

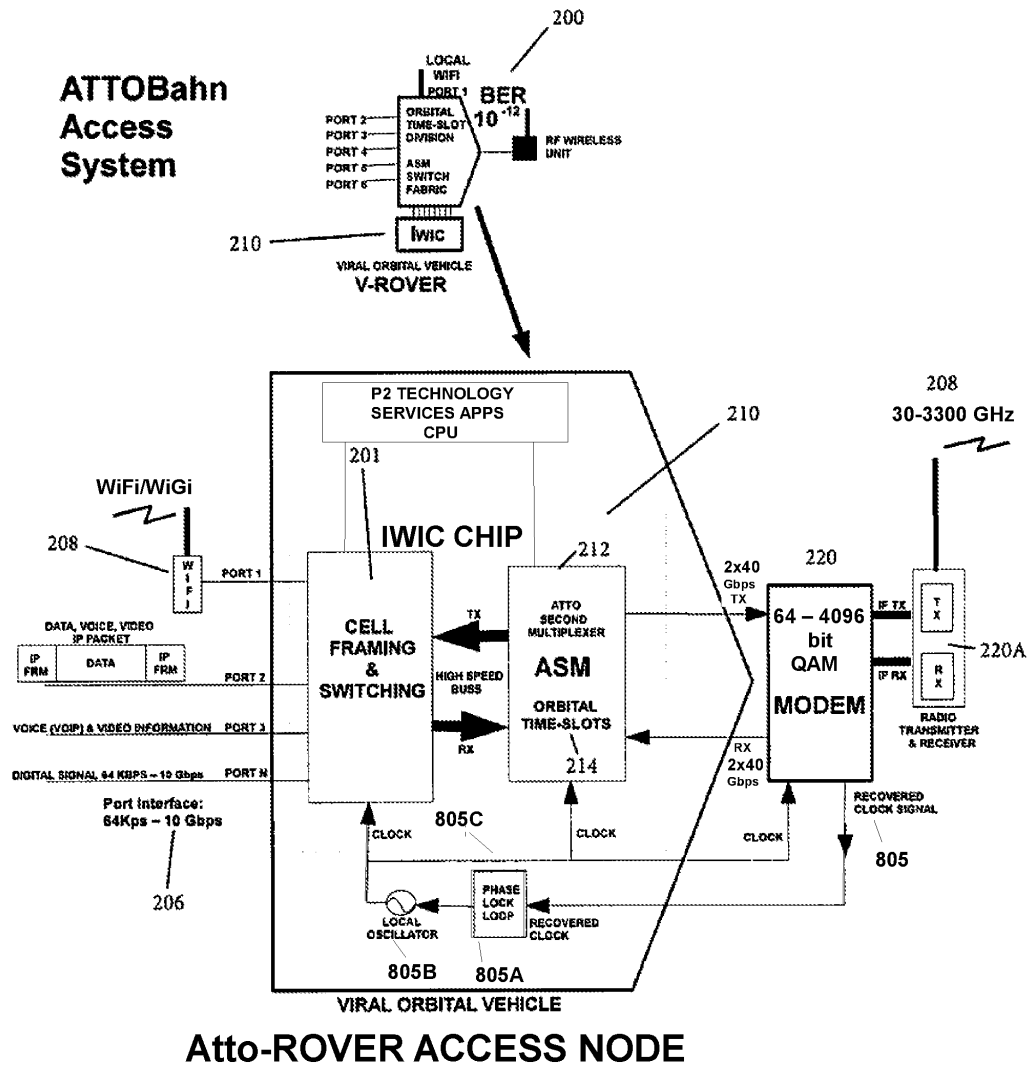


FIGURE 28

ATTOBahn Atto-ROVER DESIGN LAYOUT

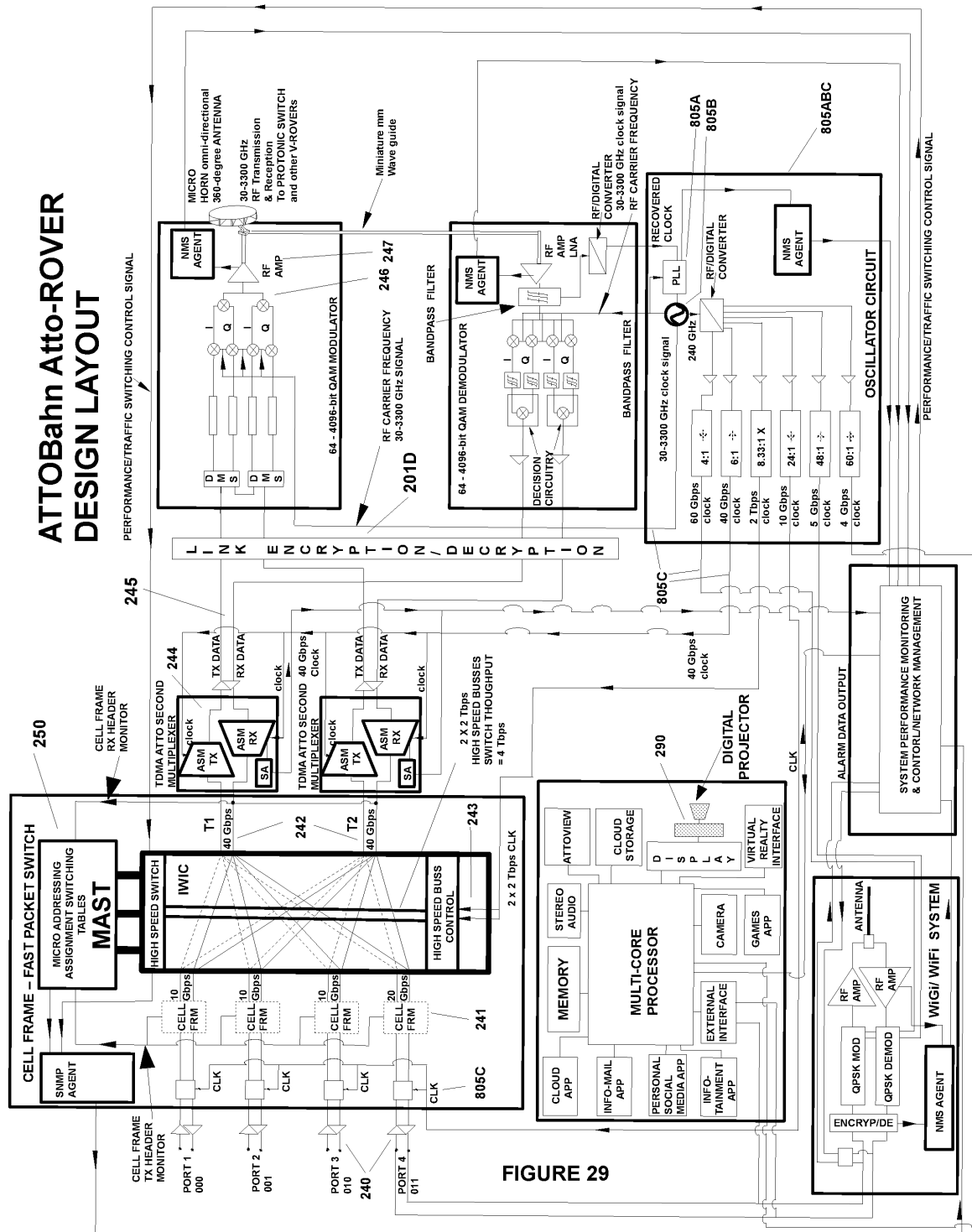
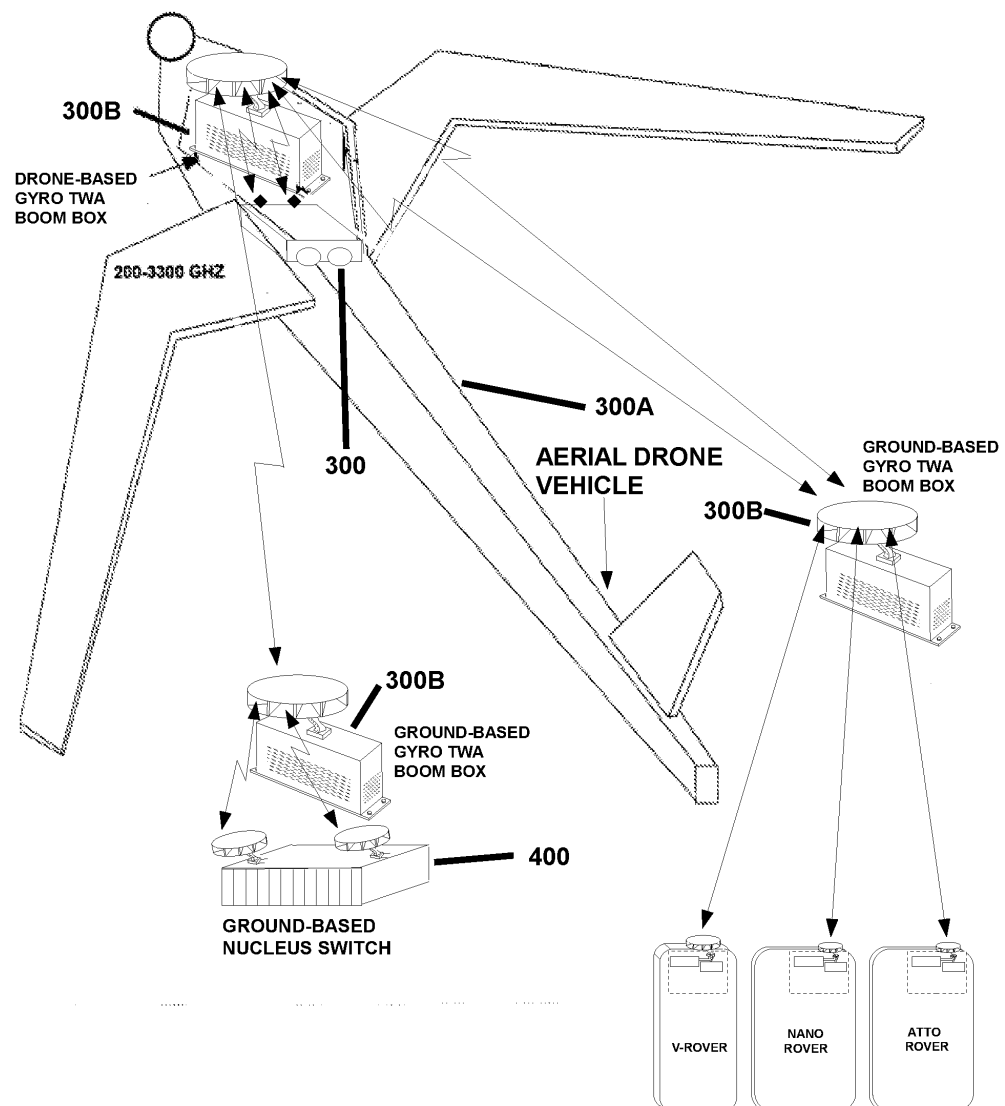
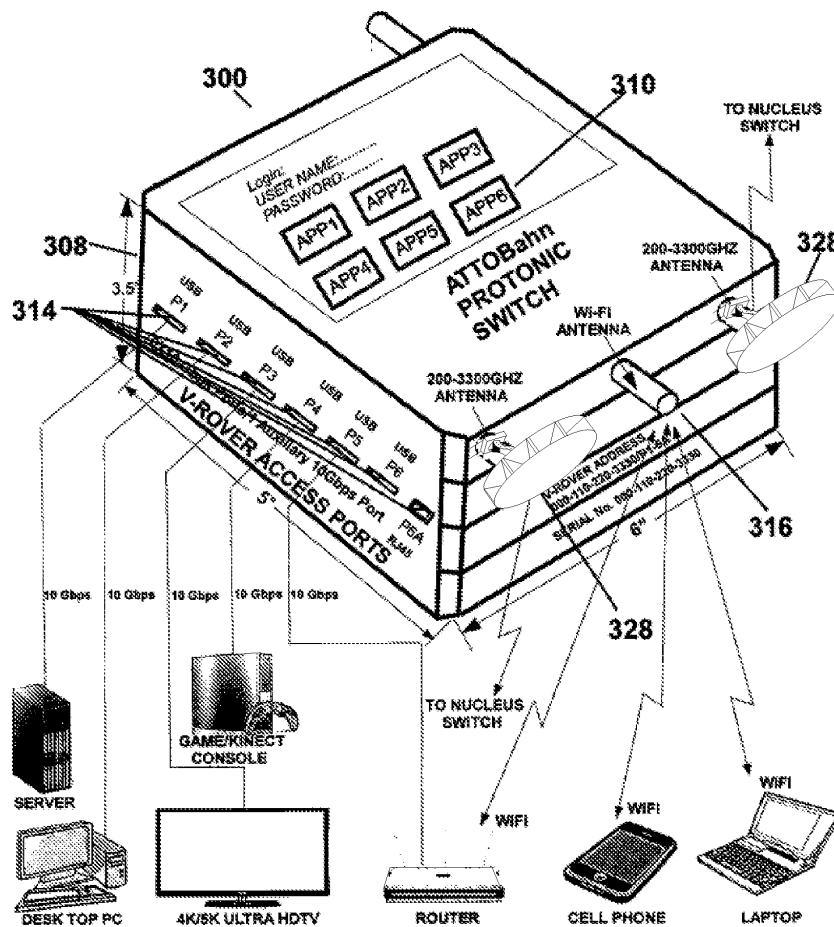


FIGURE 29

ATTOBAHN AERIAL DRONE PROTONIC SWITCH

**FIGURE 30**



PROTONIC SWITCH PHYSICAL CONNECTIVITY

Figure 7A

FIGURE 32

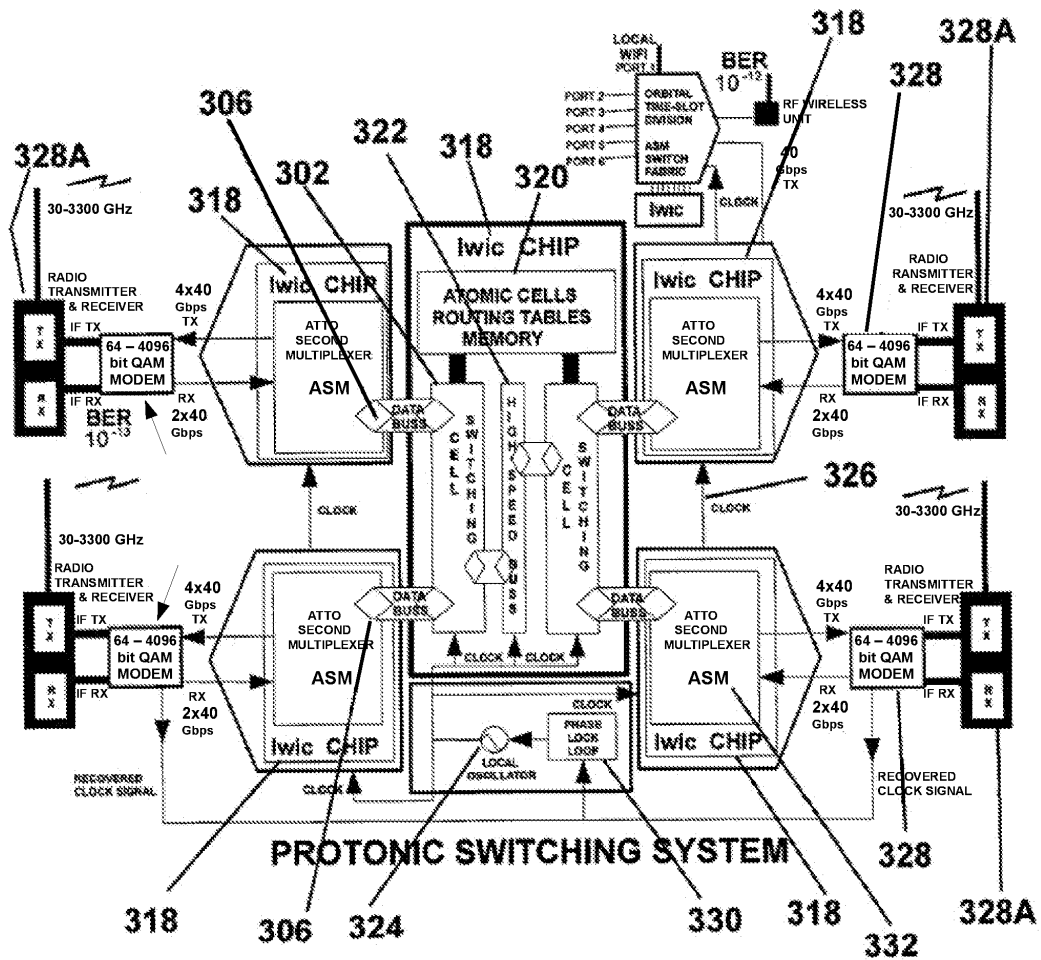
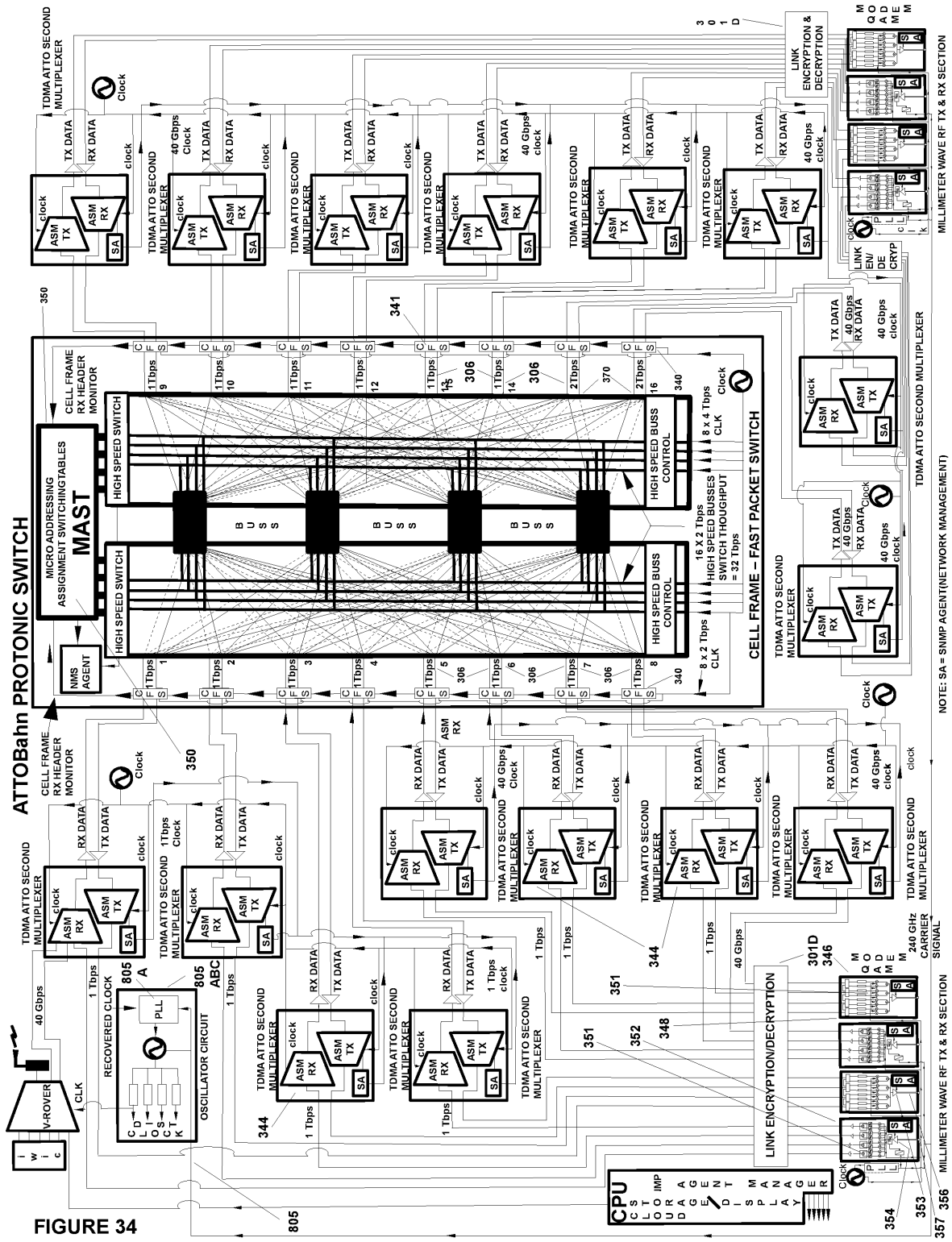


FIGURE 33



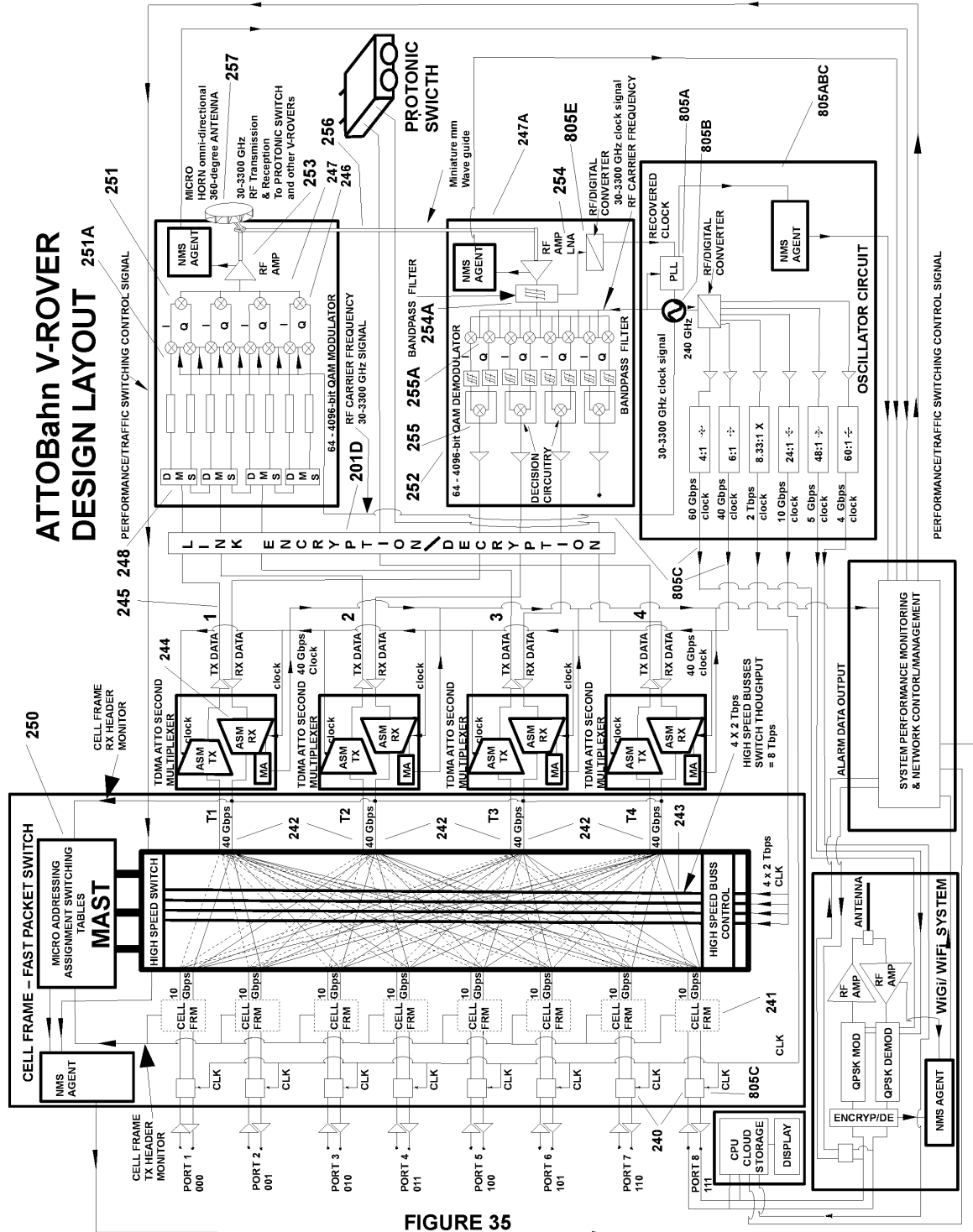


FIGURE 35

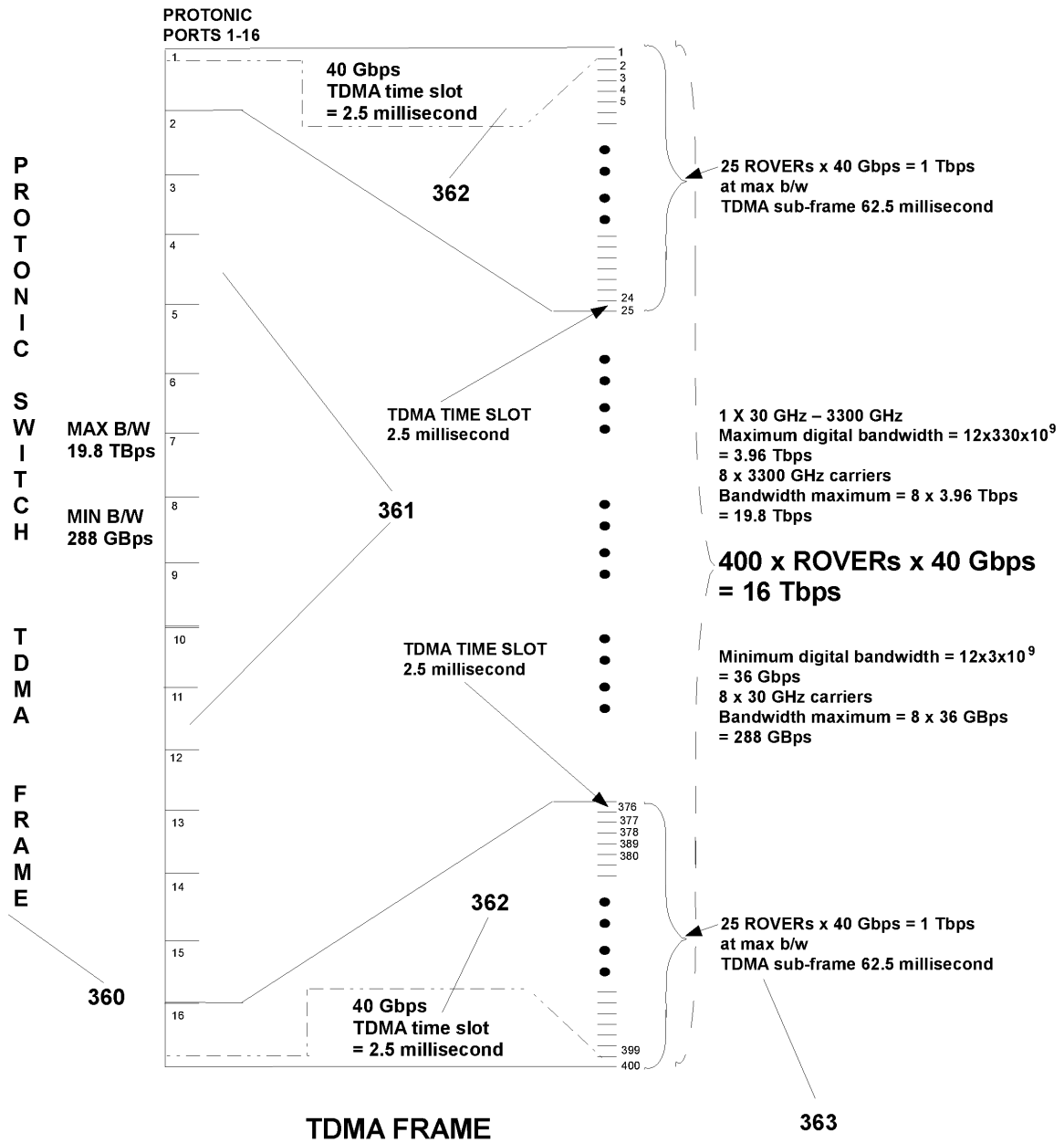


FIGURE 36

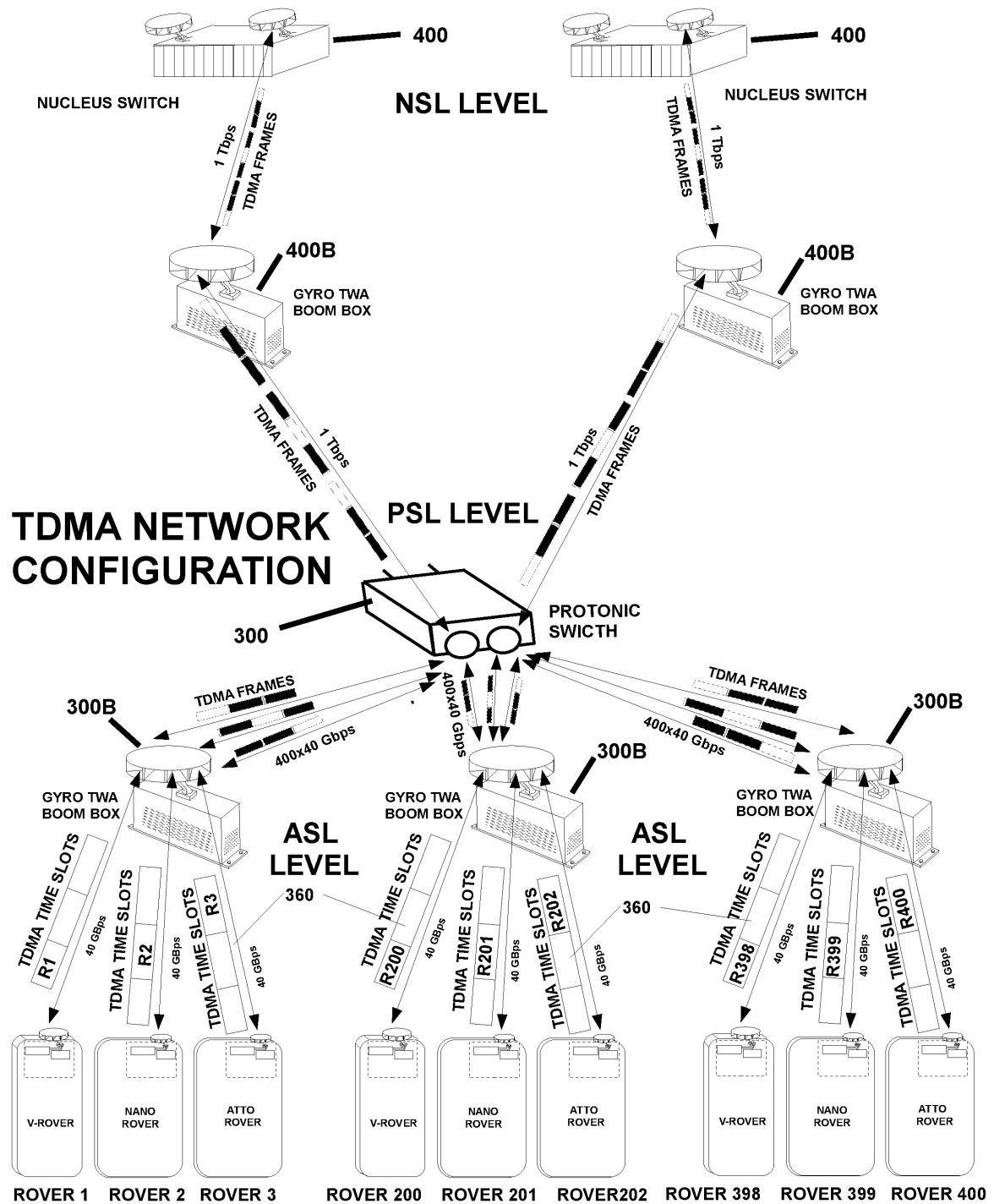


FIGURE 37

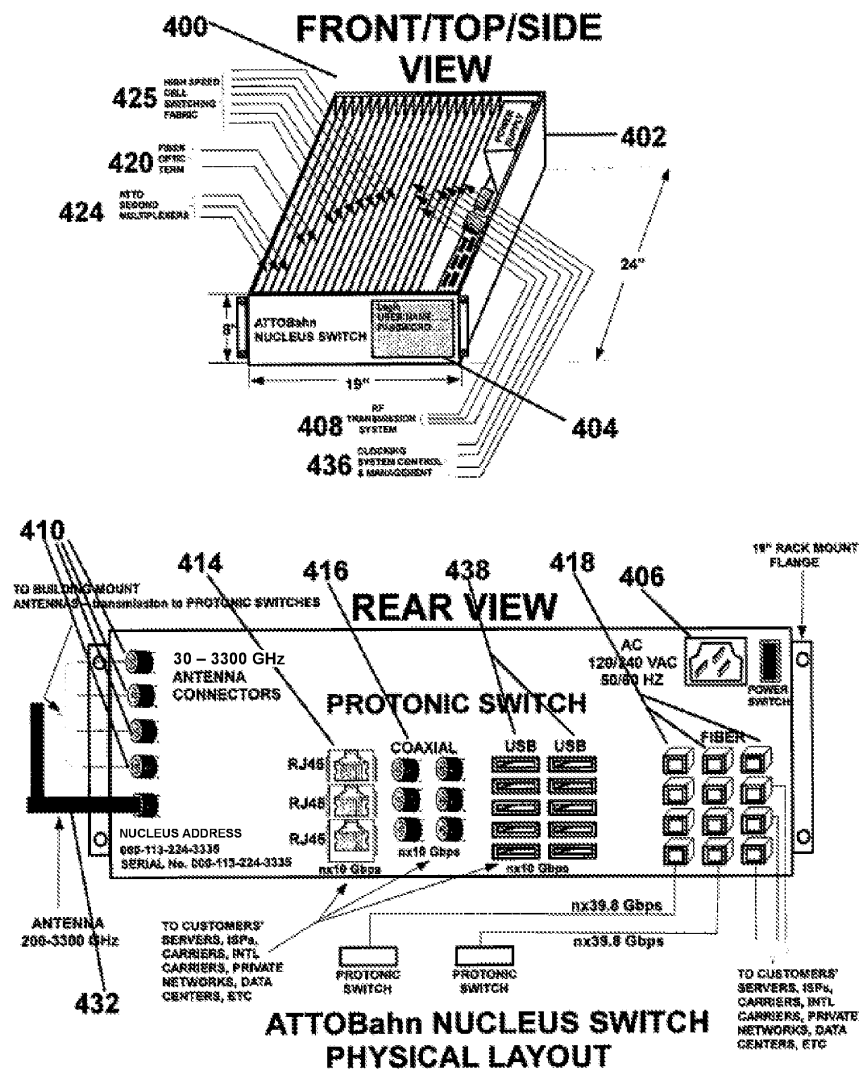


FIGURE 38

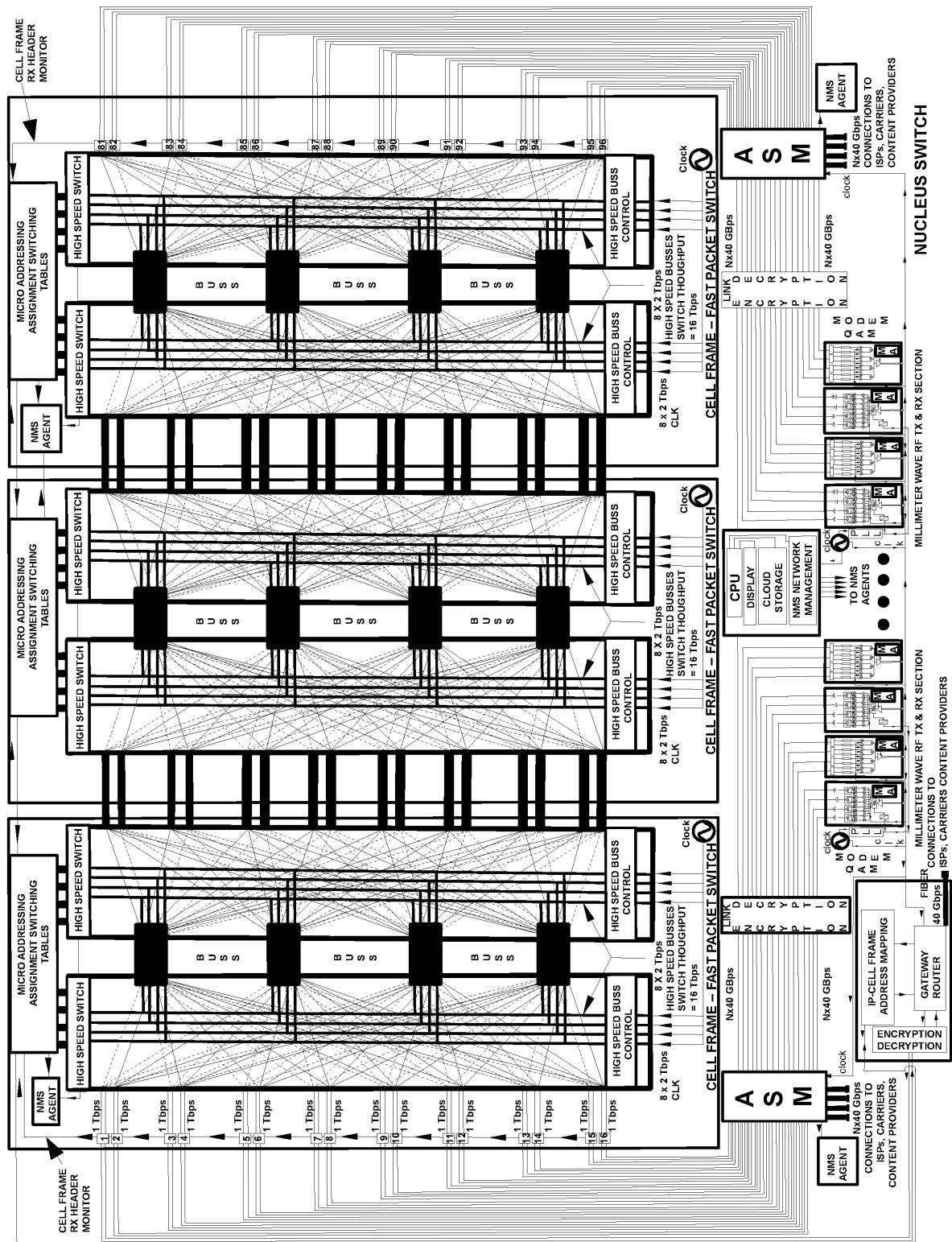


FIGURE 40

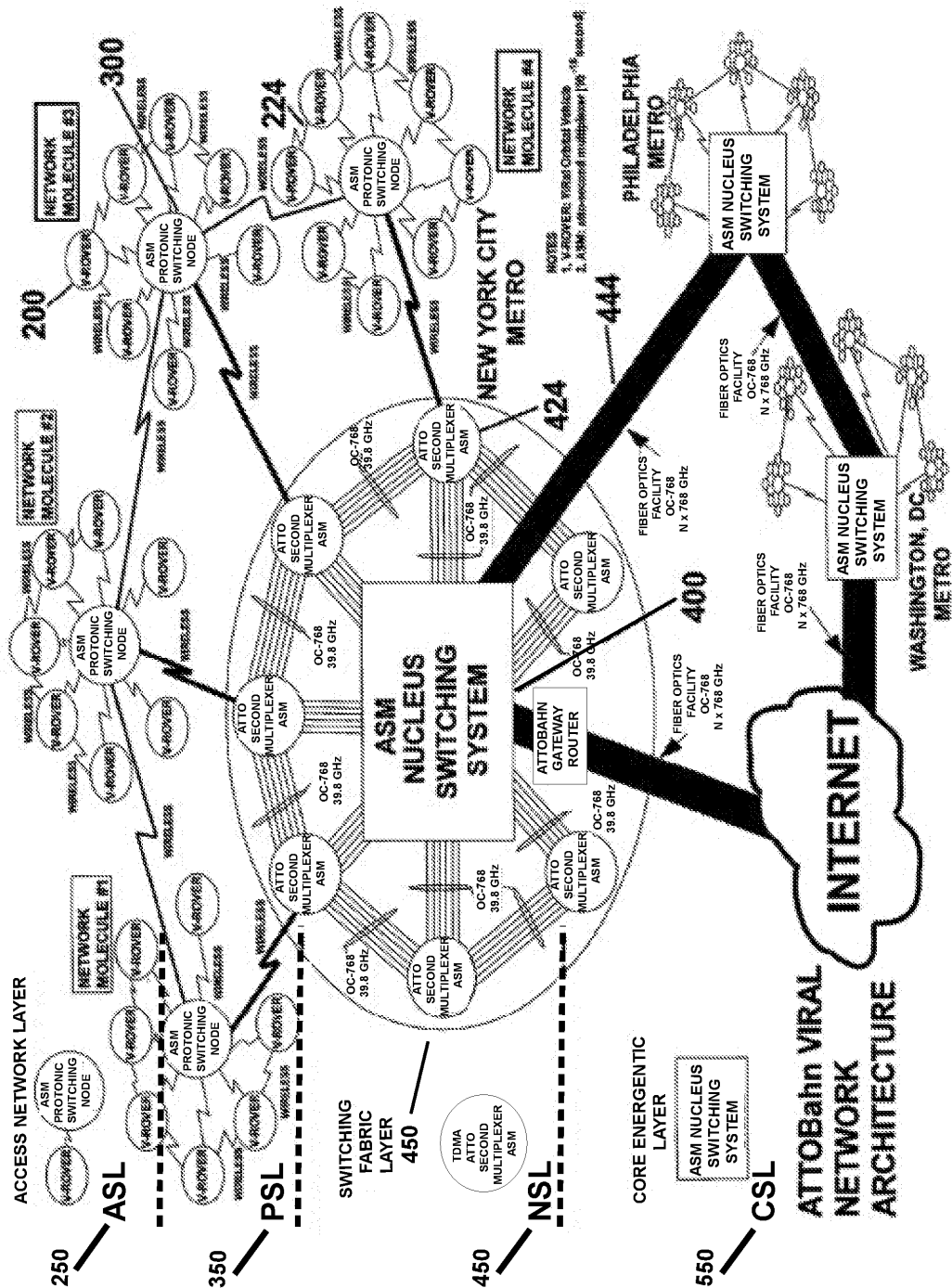
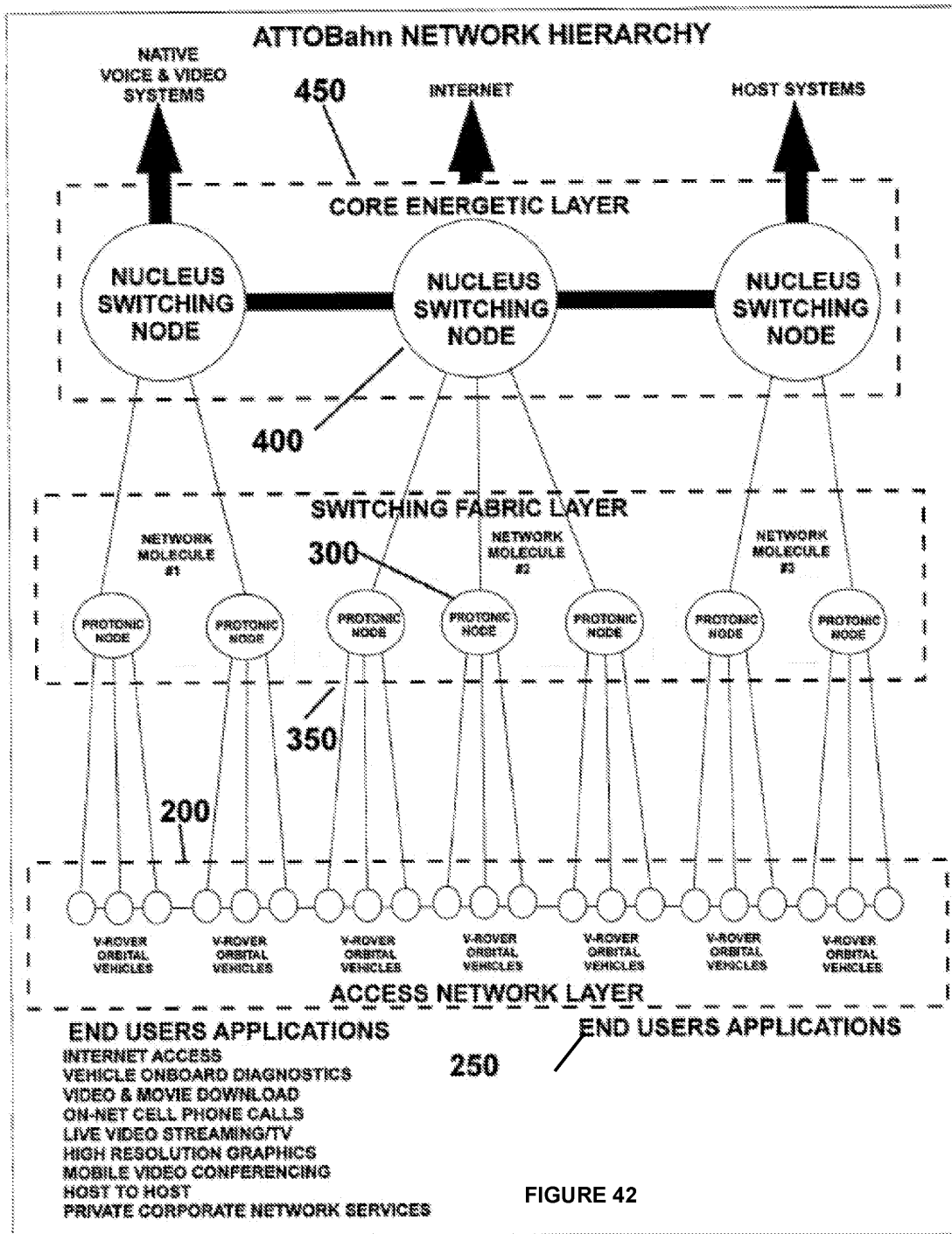
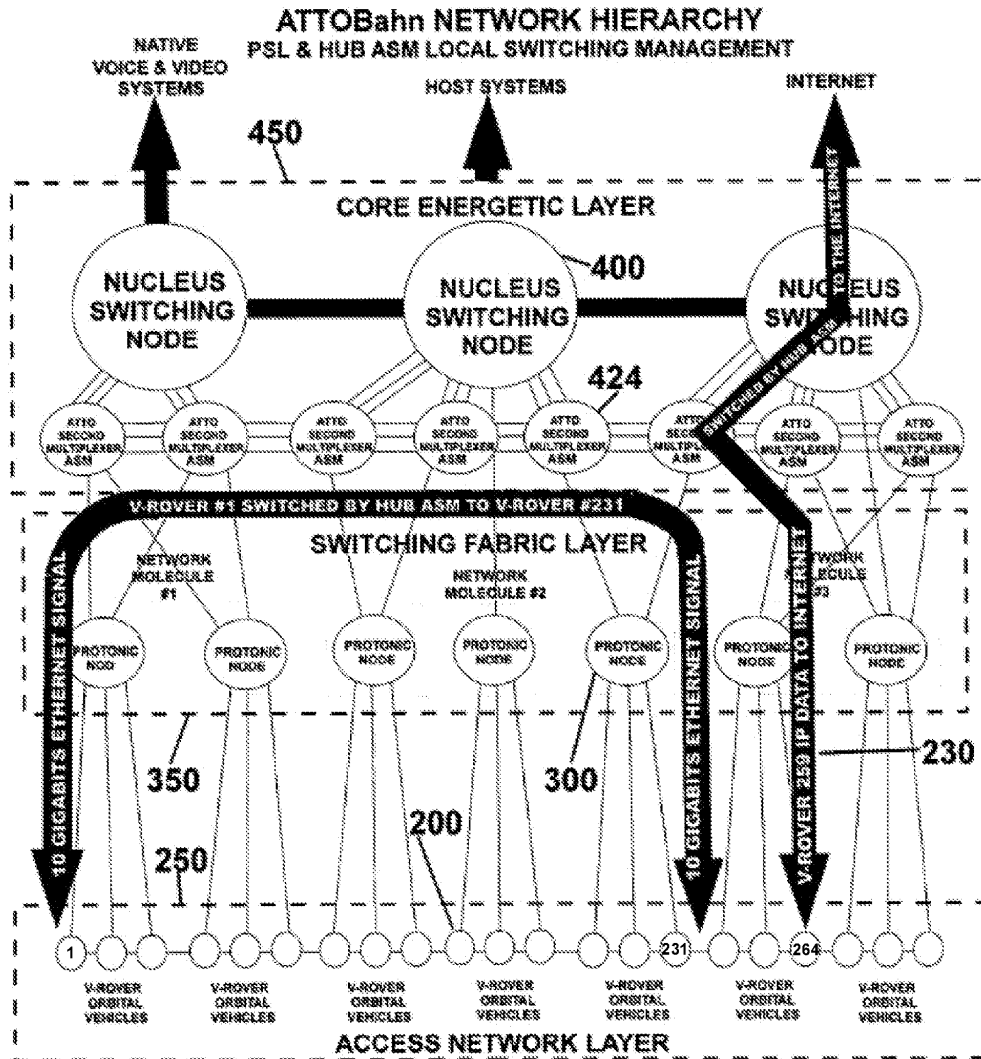


FIGURE 41

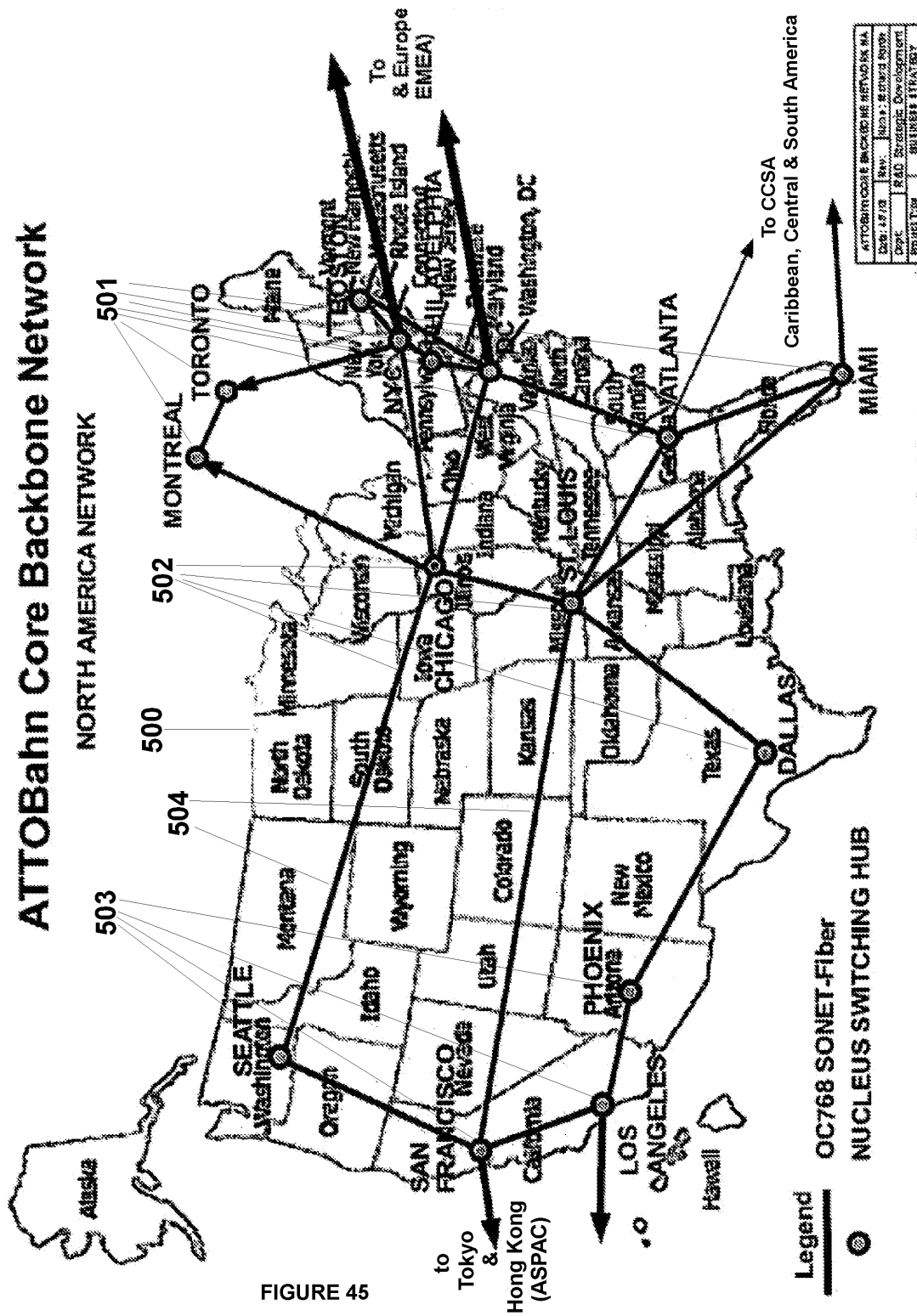




END USERS APPLICATIONS 10-20 Gbps connections to each user

INTERNET ACCESS
 VEHICLE ONBOARD DIAGNOSTICS
 AUTONOMOUS VEHICLE COMMUNICATIONS NETWORK
 VIDEO & MOVIE DOWNLOAD
 ON-NET CELL PHONE CALLS
 LIVE VIDEO & TV NEWS BROADCAST
 HIGH RESOLUTION GRAPHICS
 MOBILE VIDEO CONFERENCING
 HOS-TO-HOST HIGH SPEED DATA
 PRIVATE CORPORATE NETWORK SERVICES

FIGURE 43



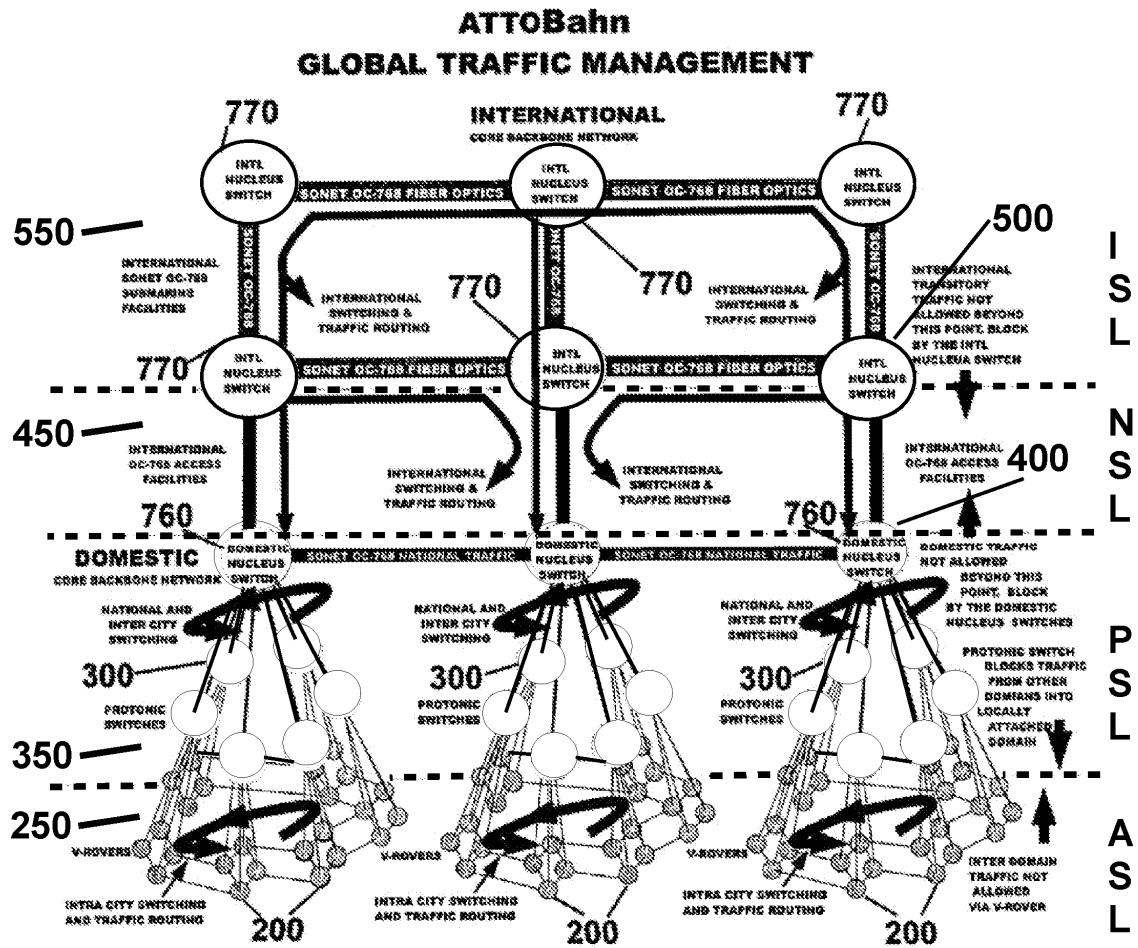
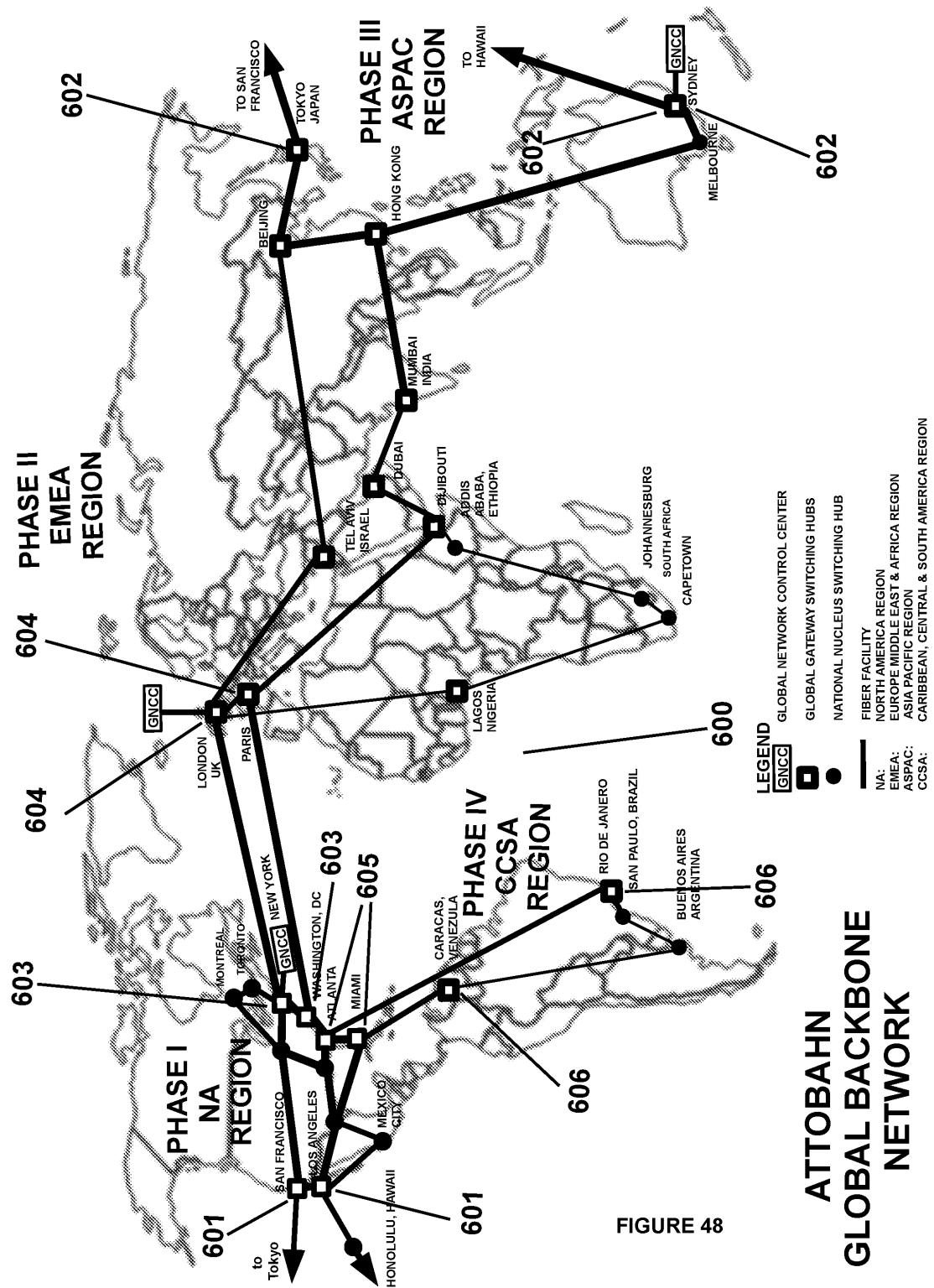


FIGURE 47



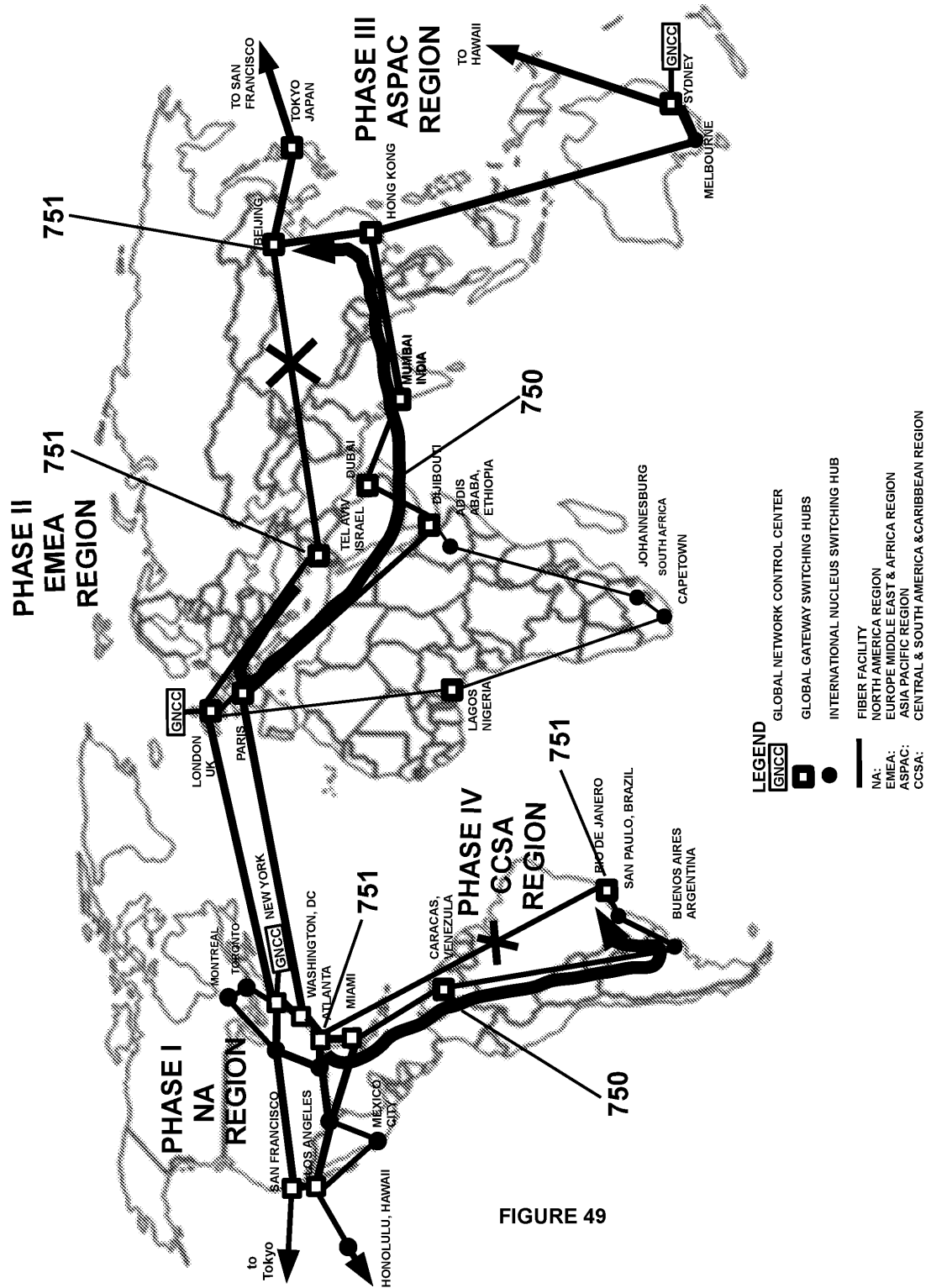


FIGURE 49

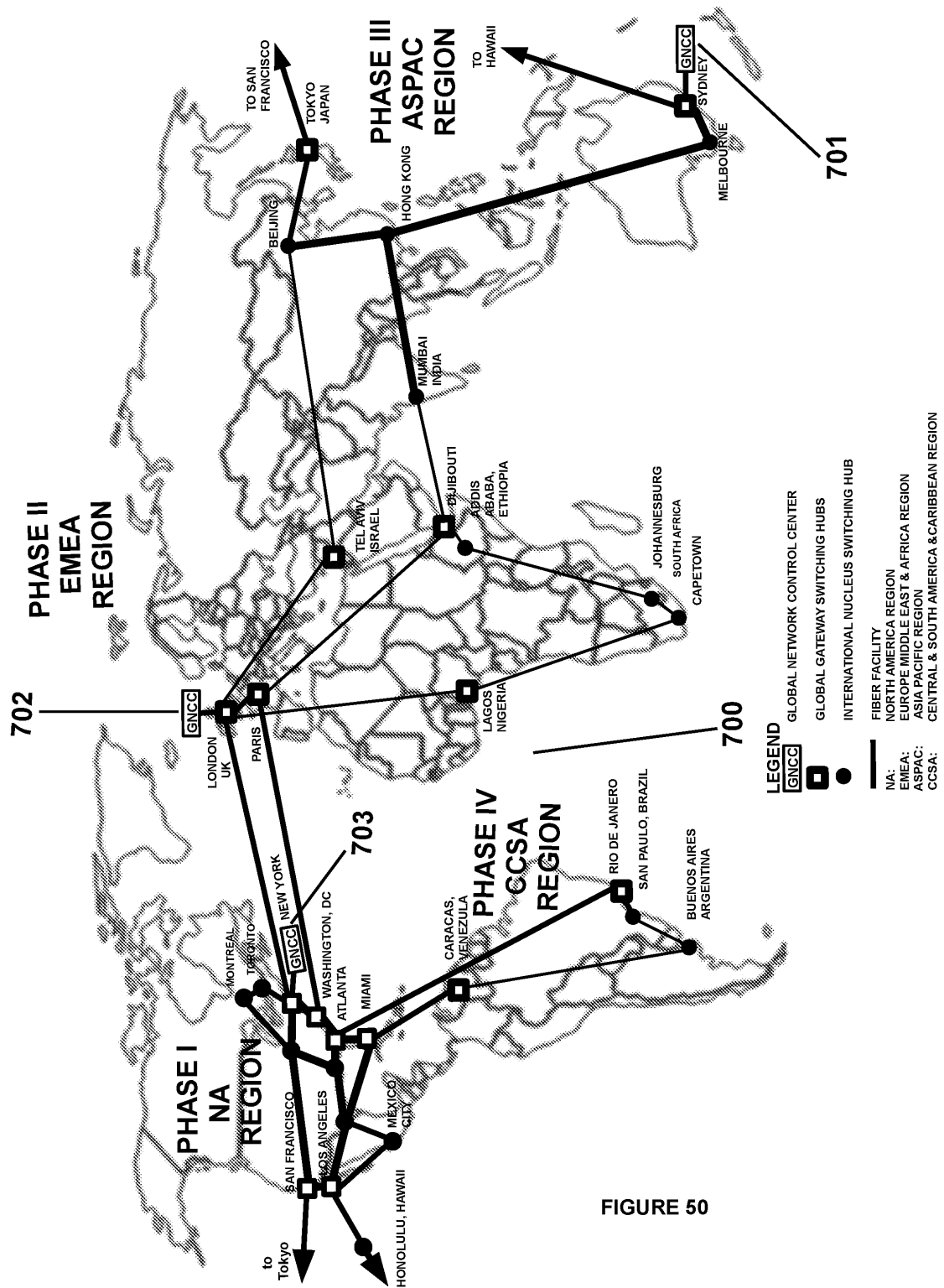


FIGURE 50

ATTOBAHN NETWORK MANAGEMENT SYSTEM

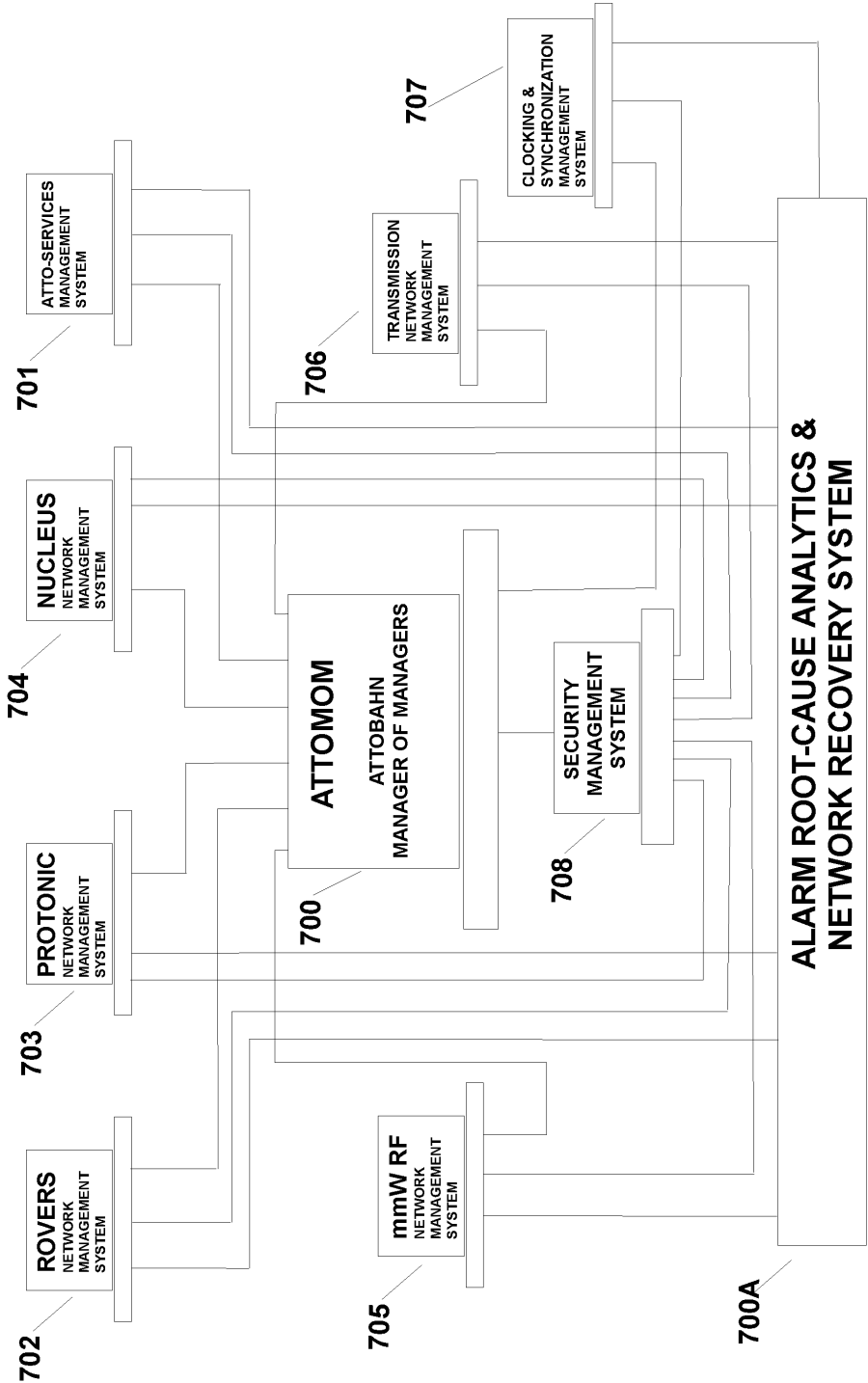


FIGURE 51

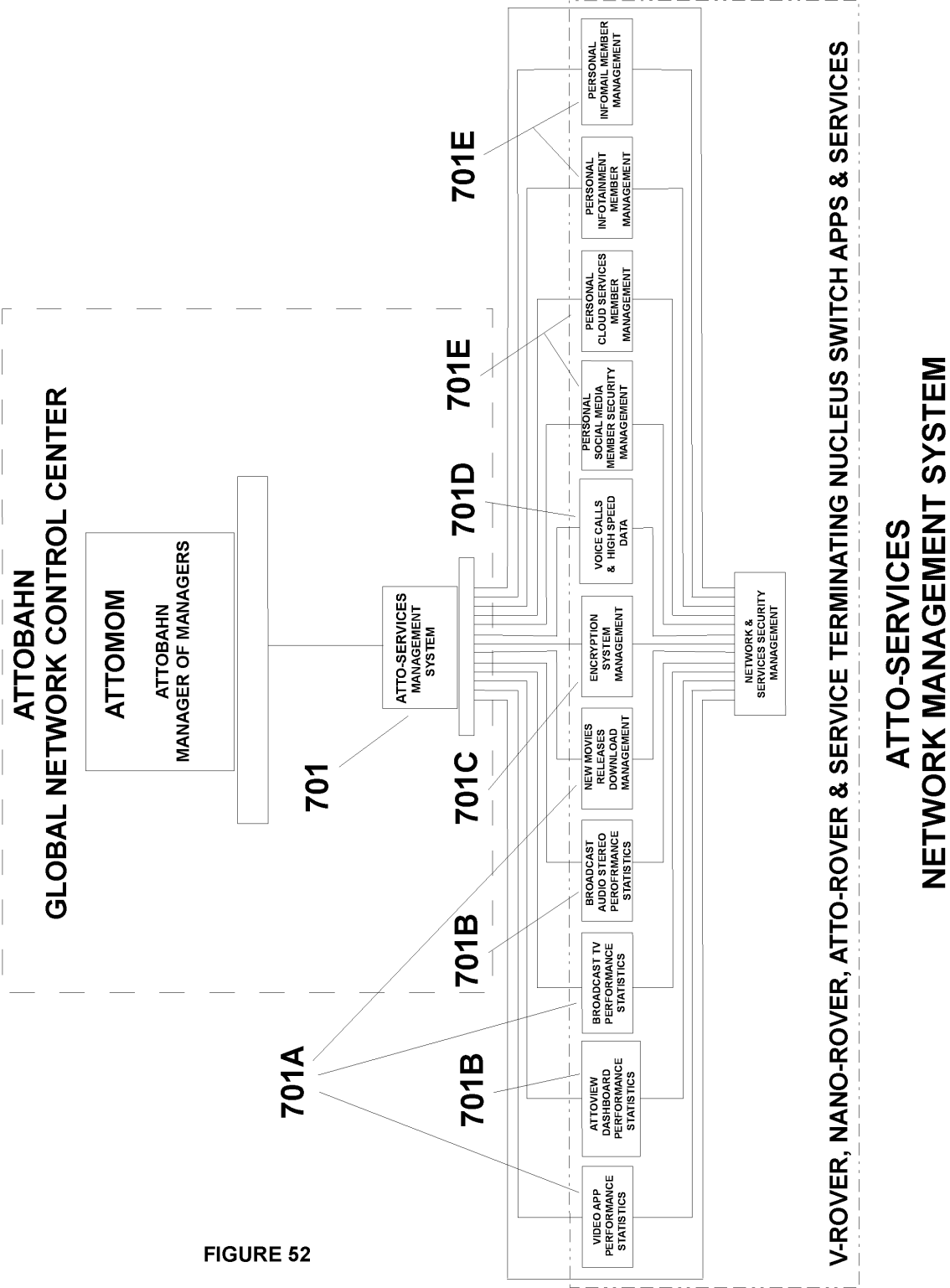


FIGURE 52

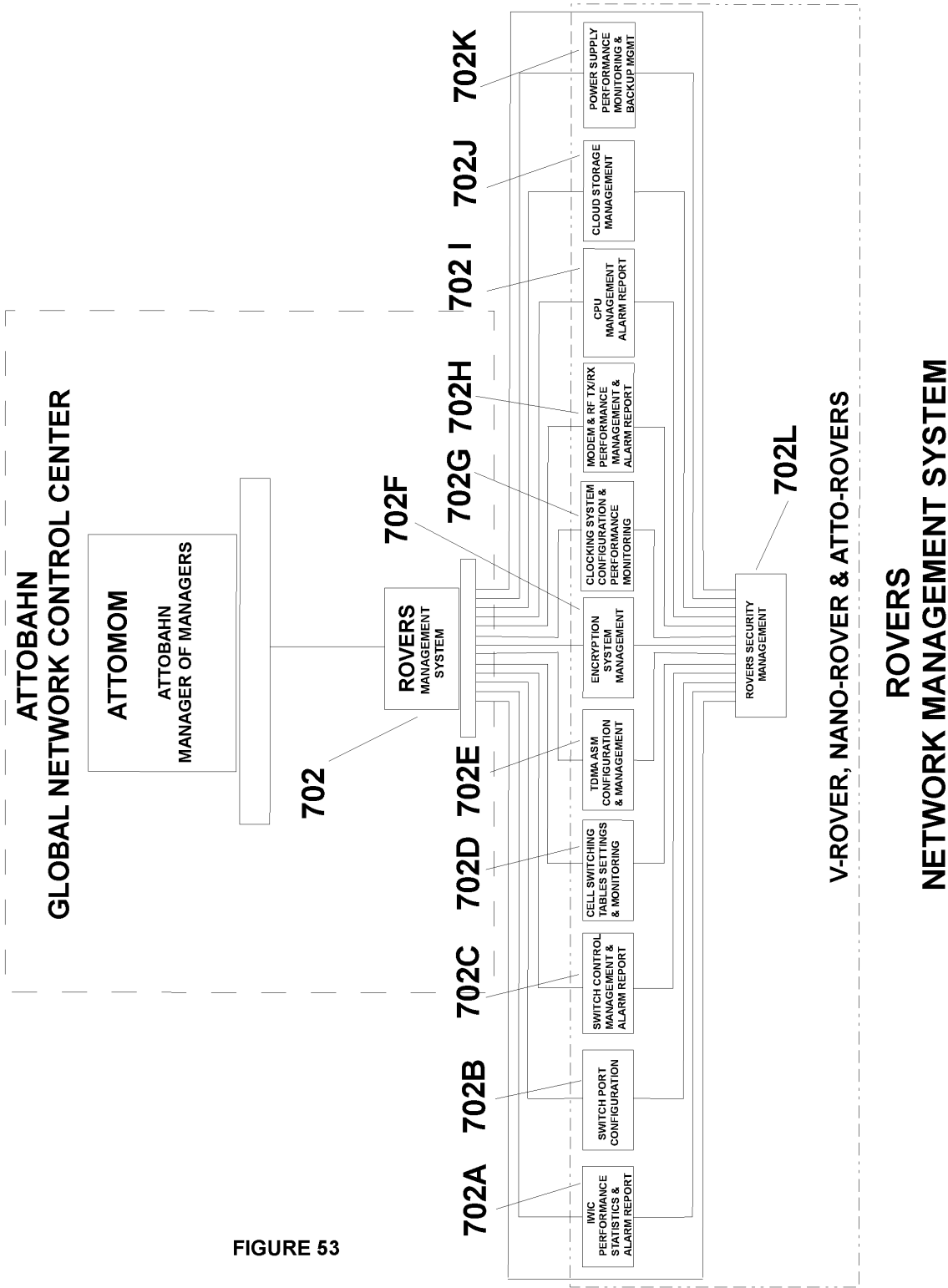


FIGURE 53

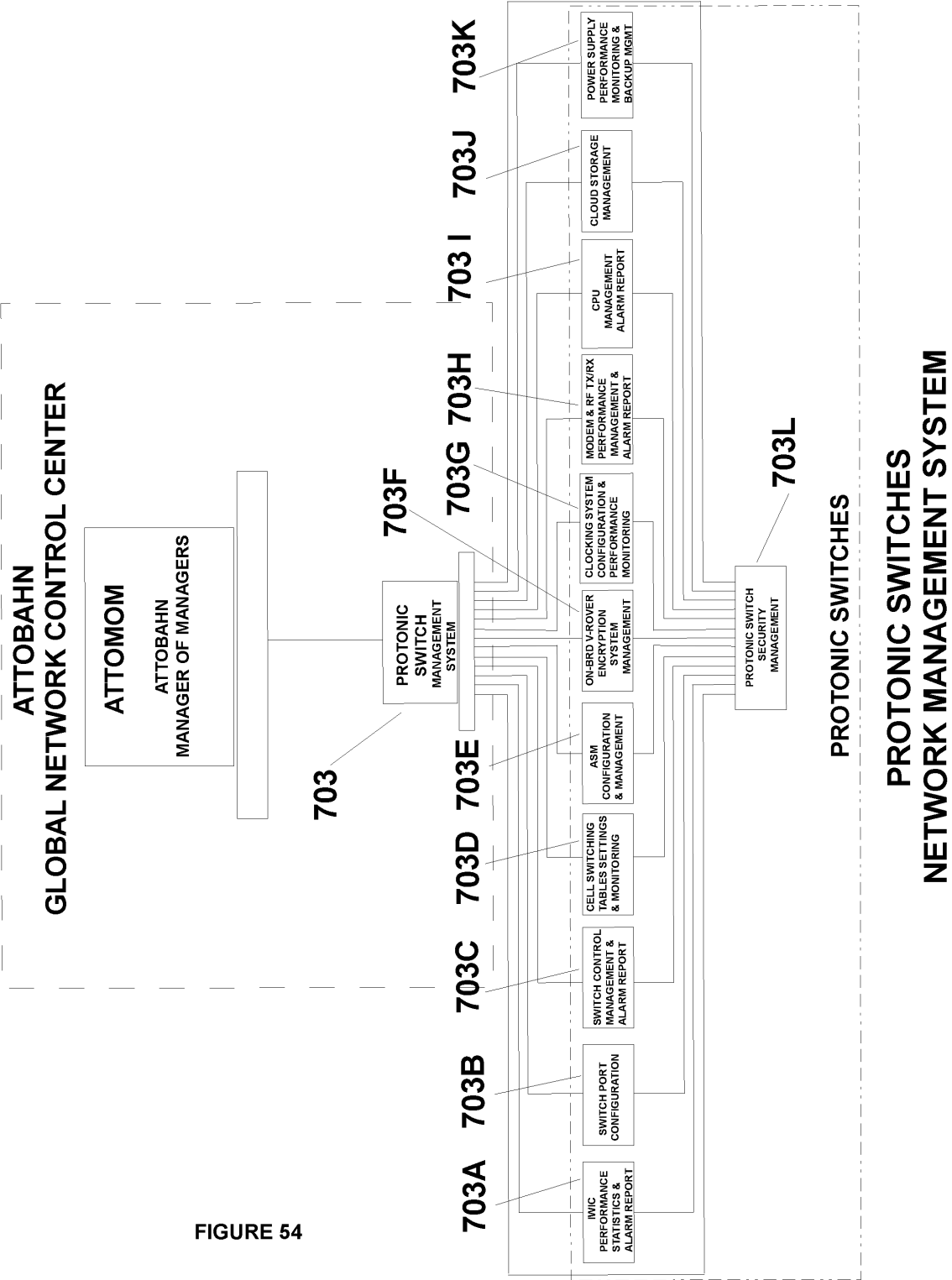


FIGURE 54

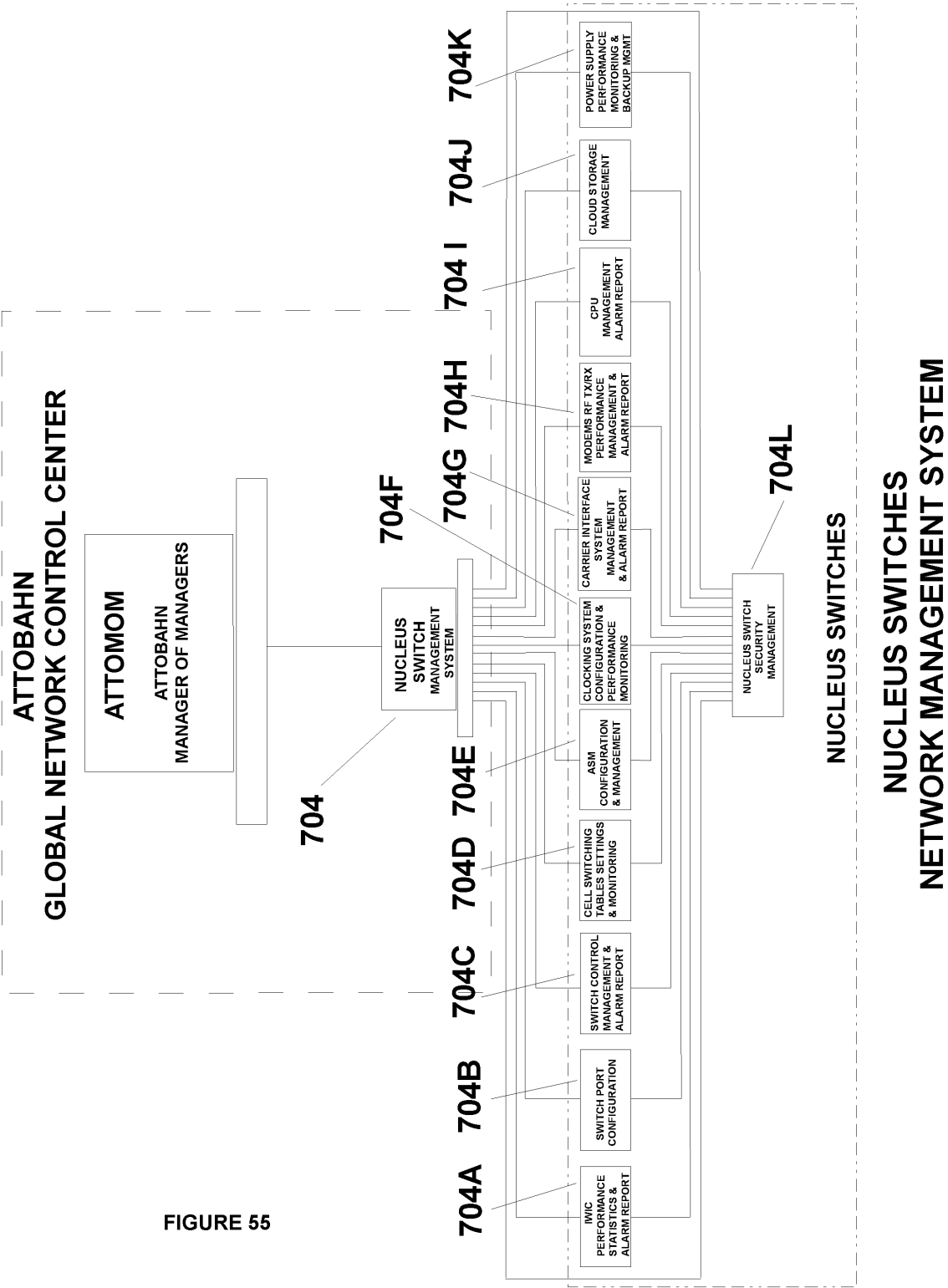


FIGURE 55

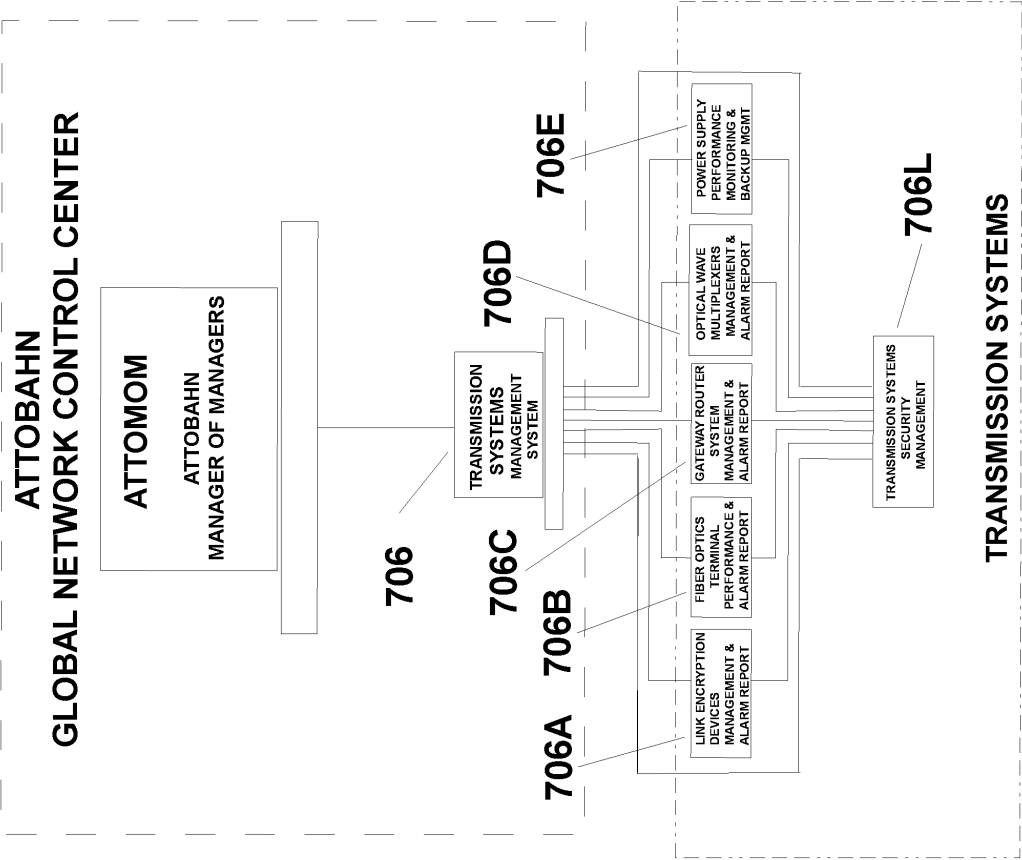


FIGURE 57

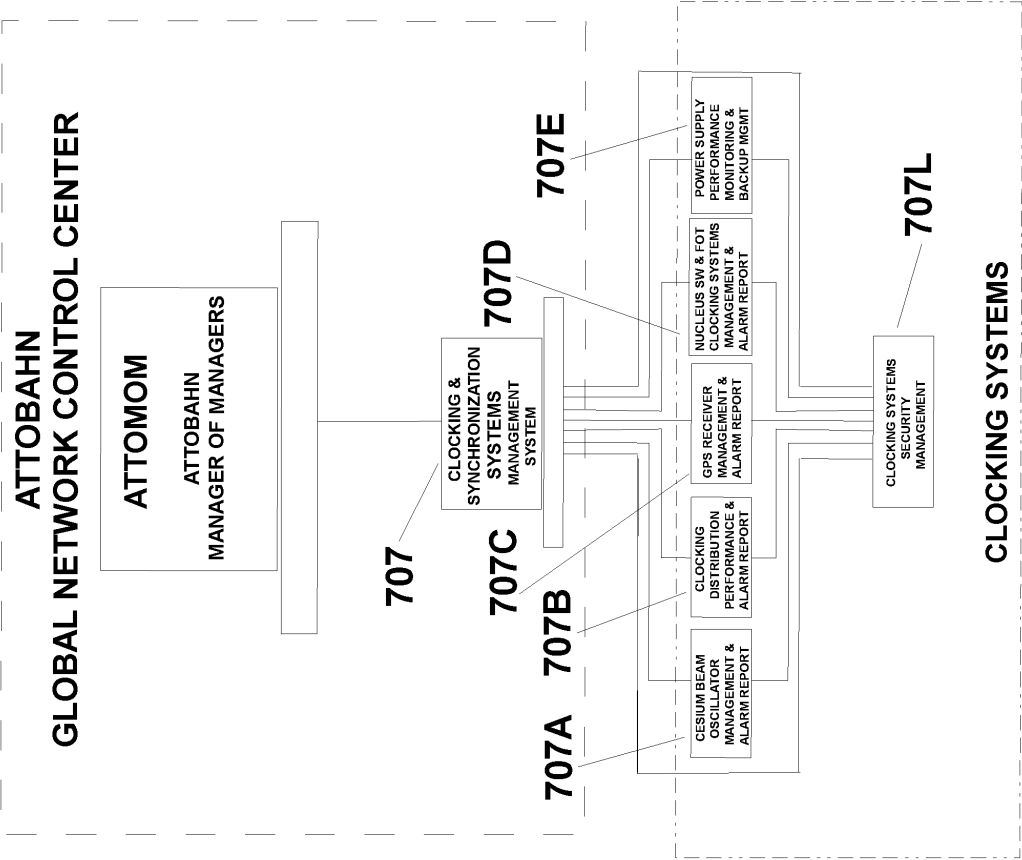
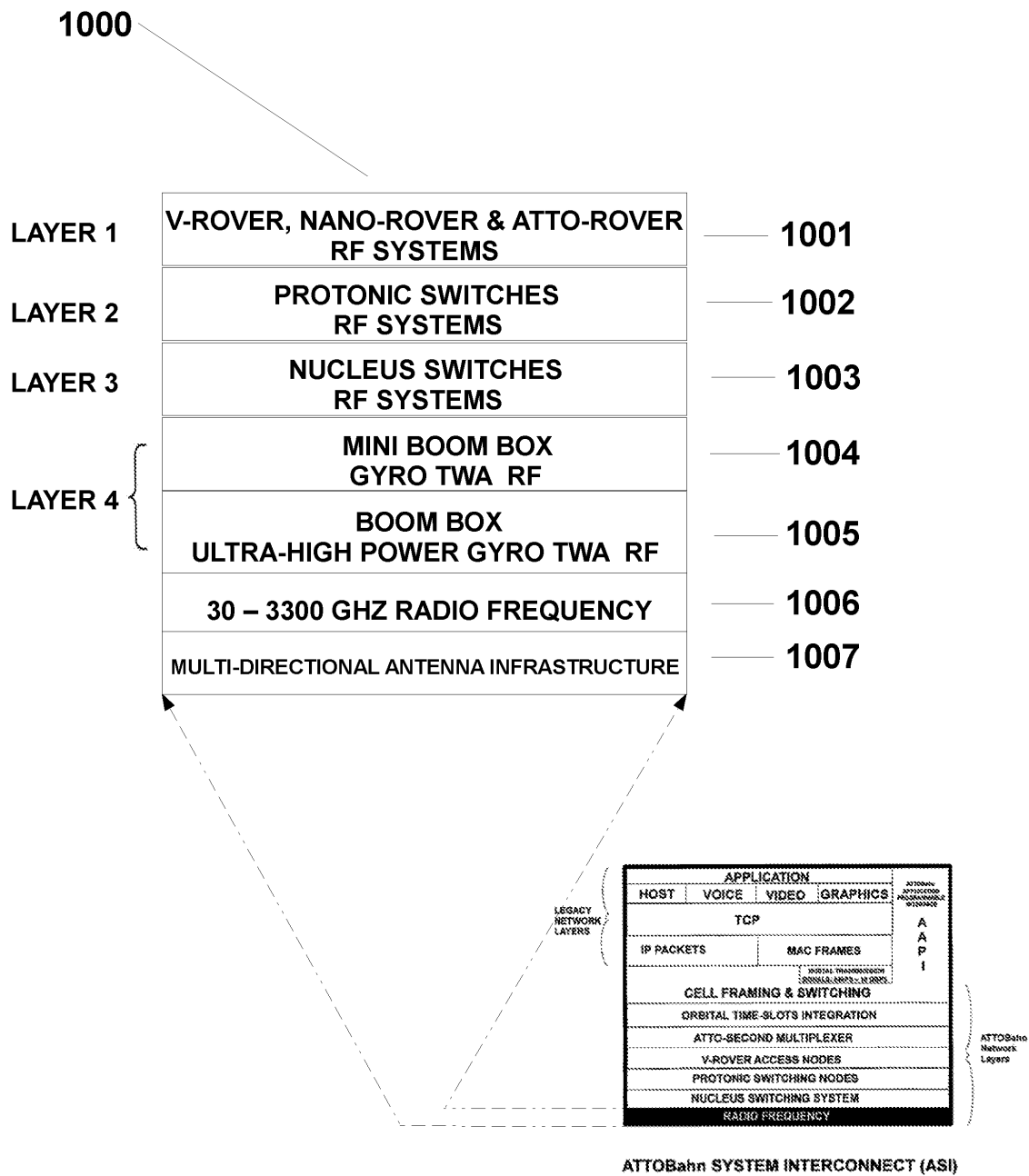


FIGURE 58



ATTOBAHN MILLIMETER WAVE RADIO FREQUENCY
NETWORK ARCHITECTURE

FIGURE 59

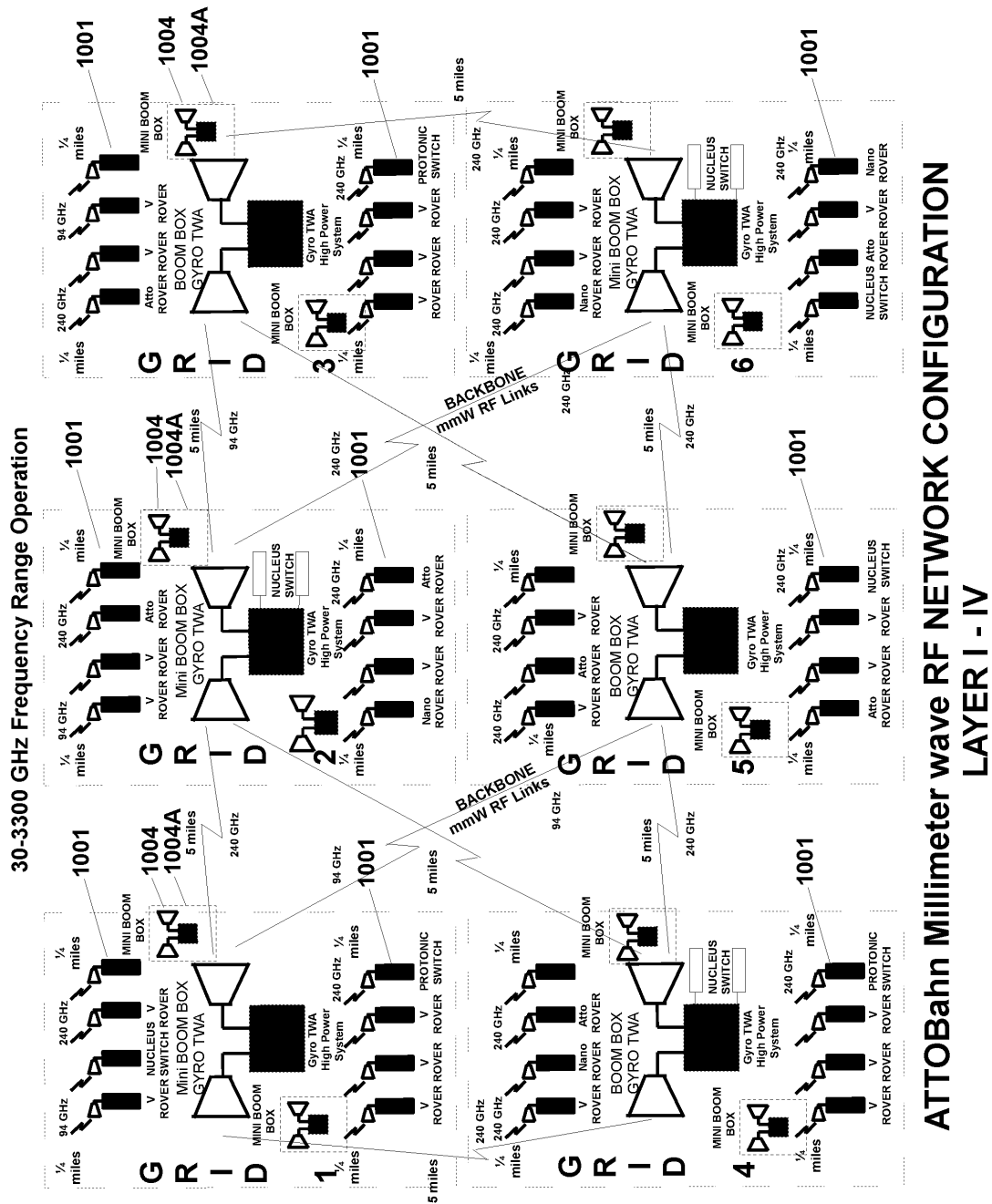


FIGURE 61

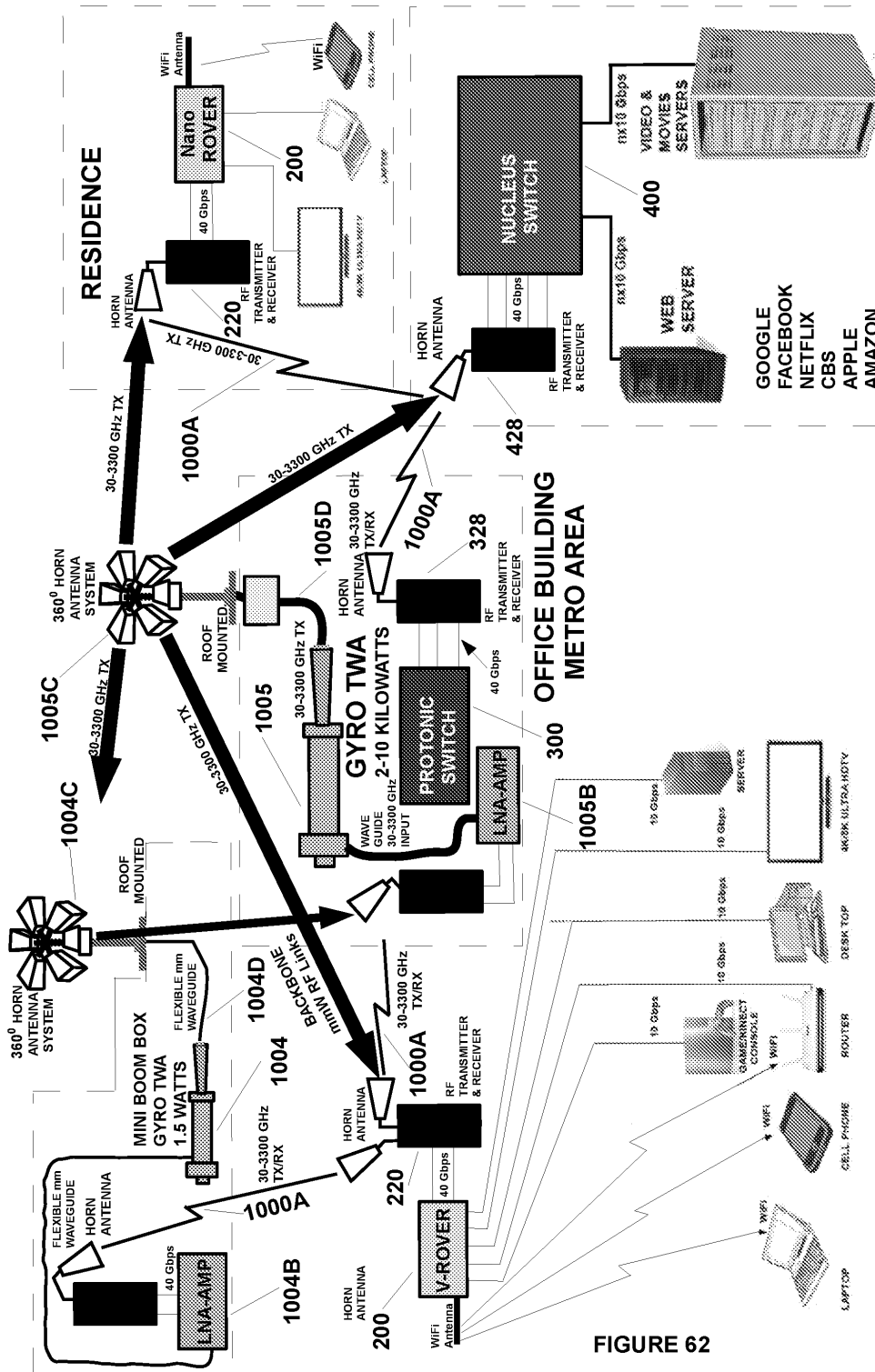


FIGURE 62

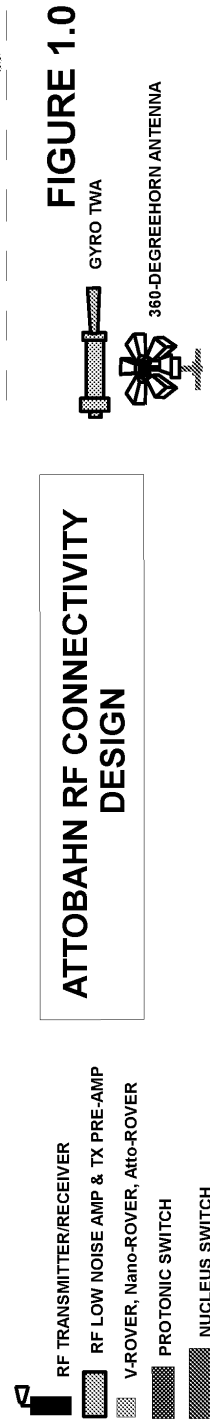
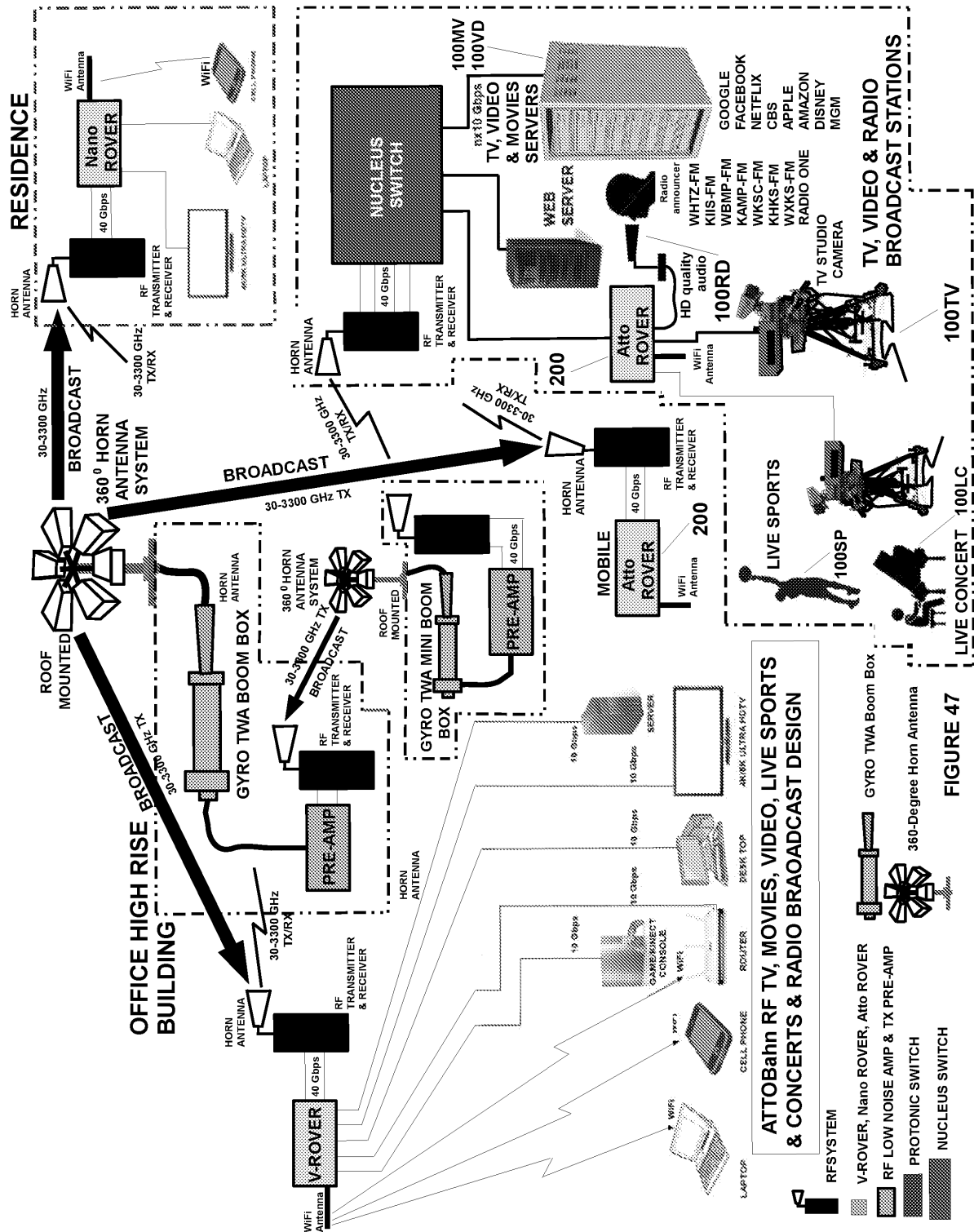
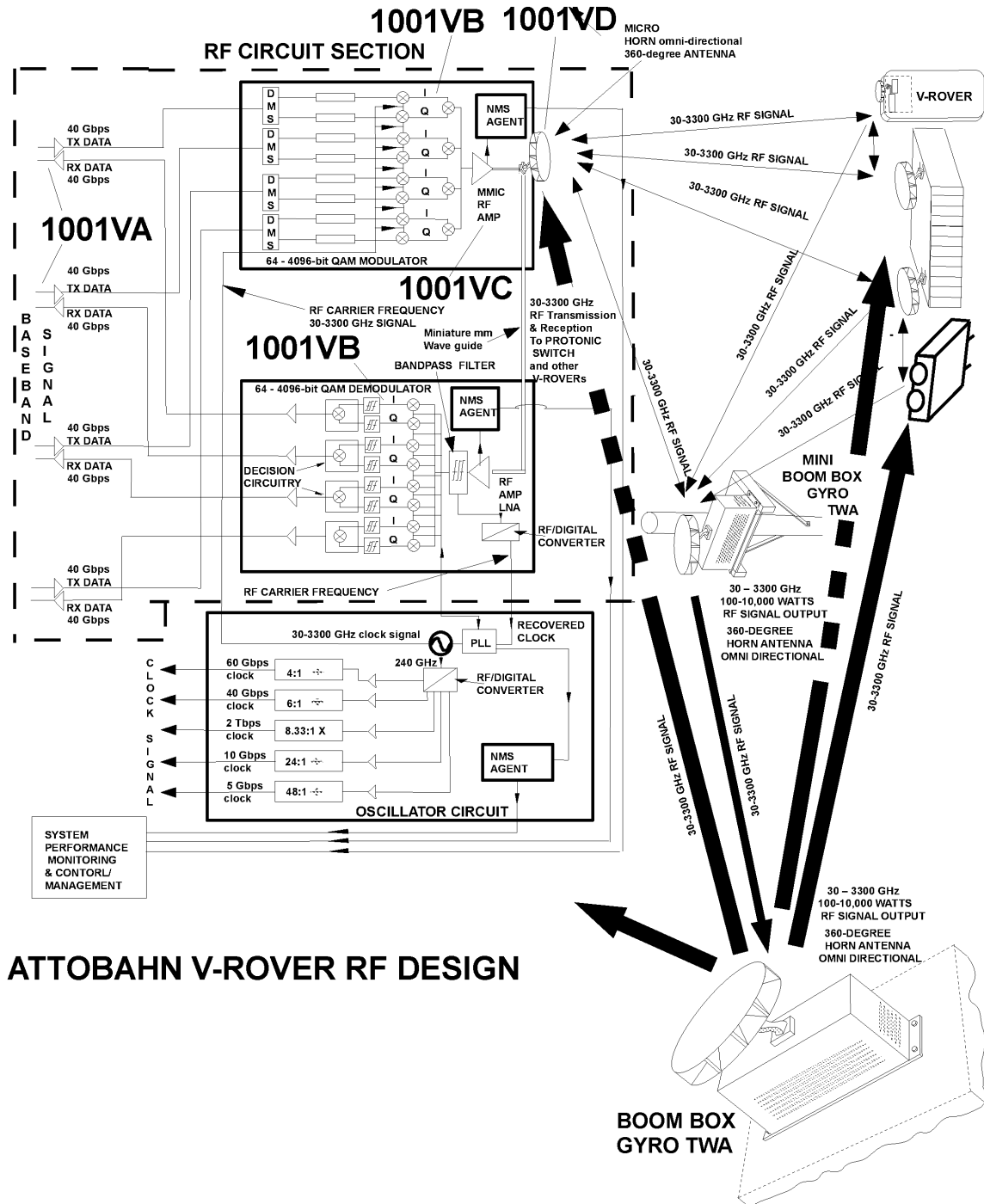
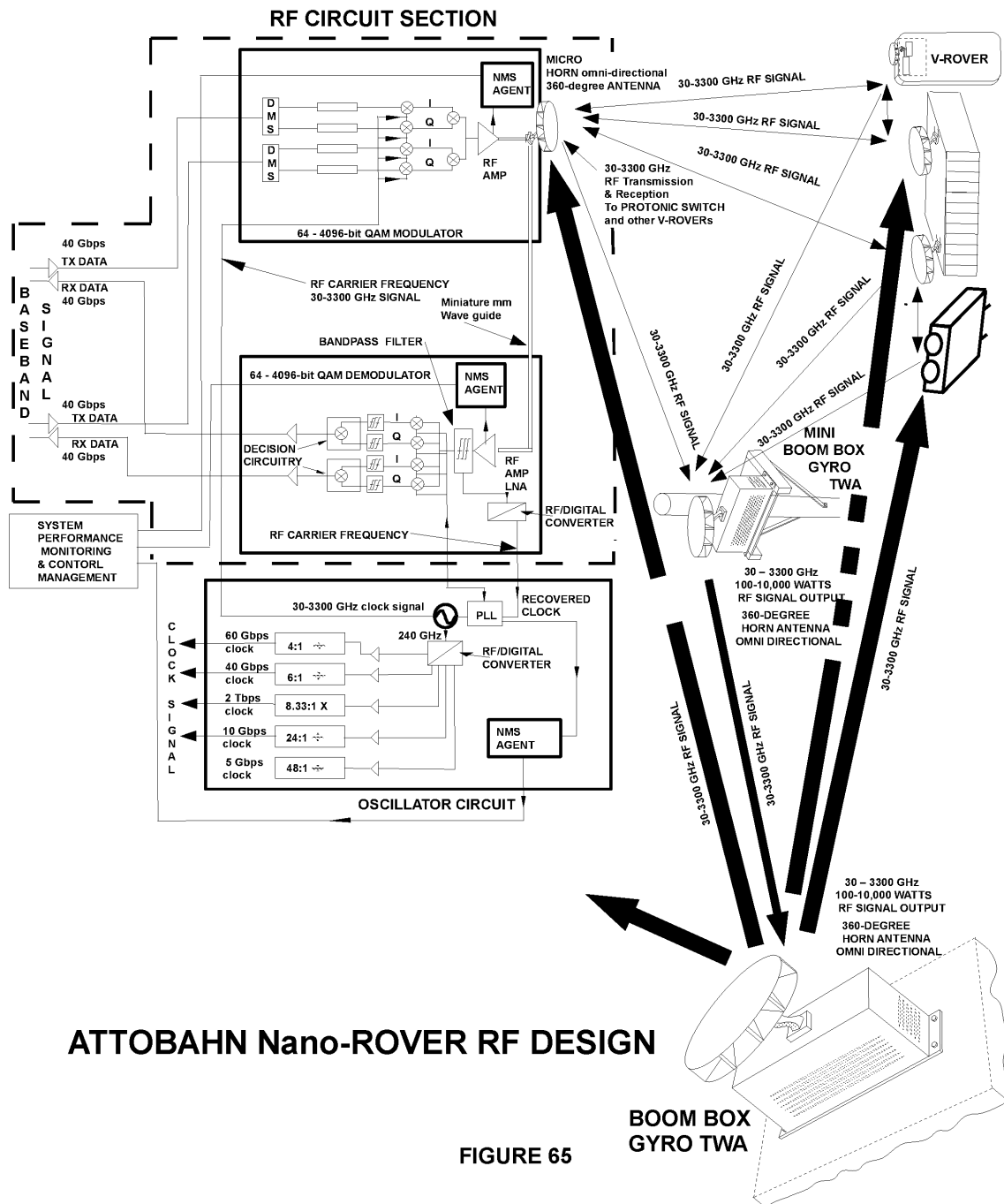


FIGURE 1.0







ATTOBAHN Atto-ROVER RF DESIGN

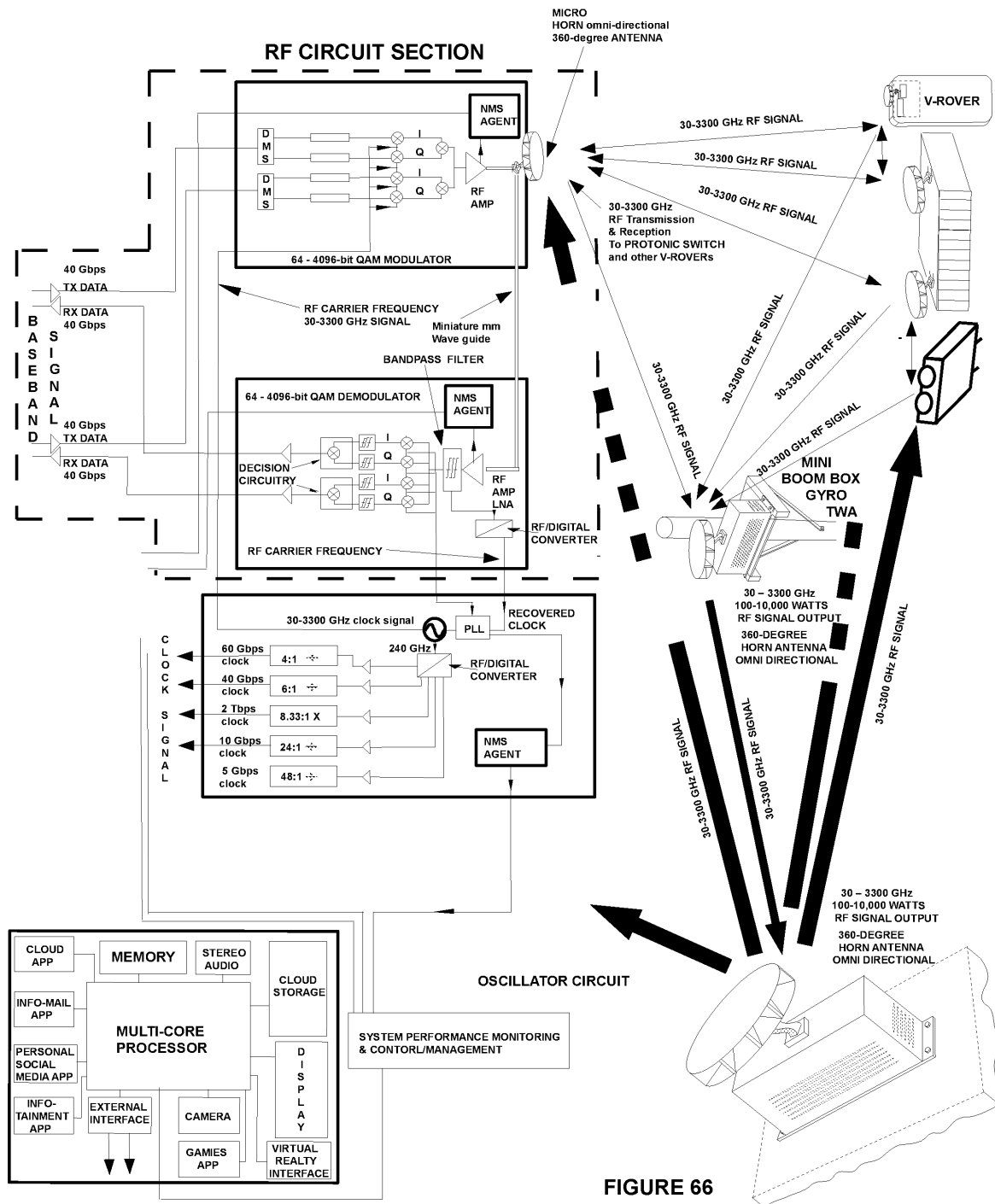
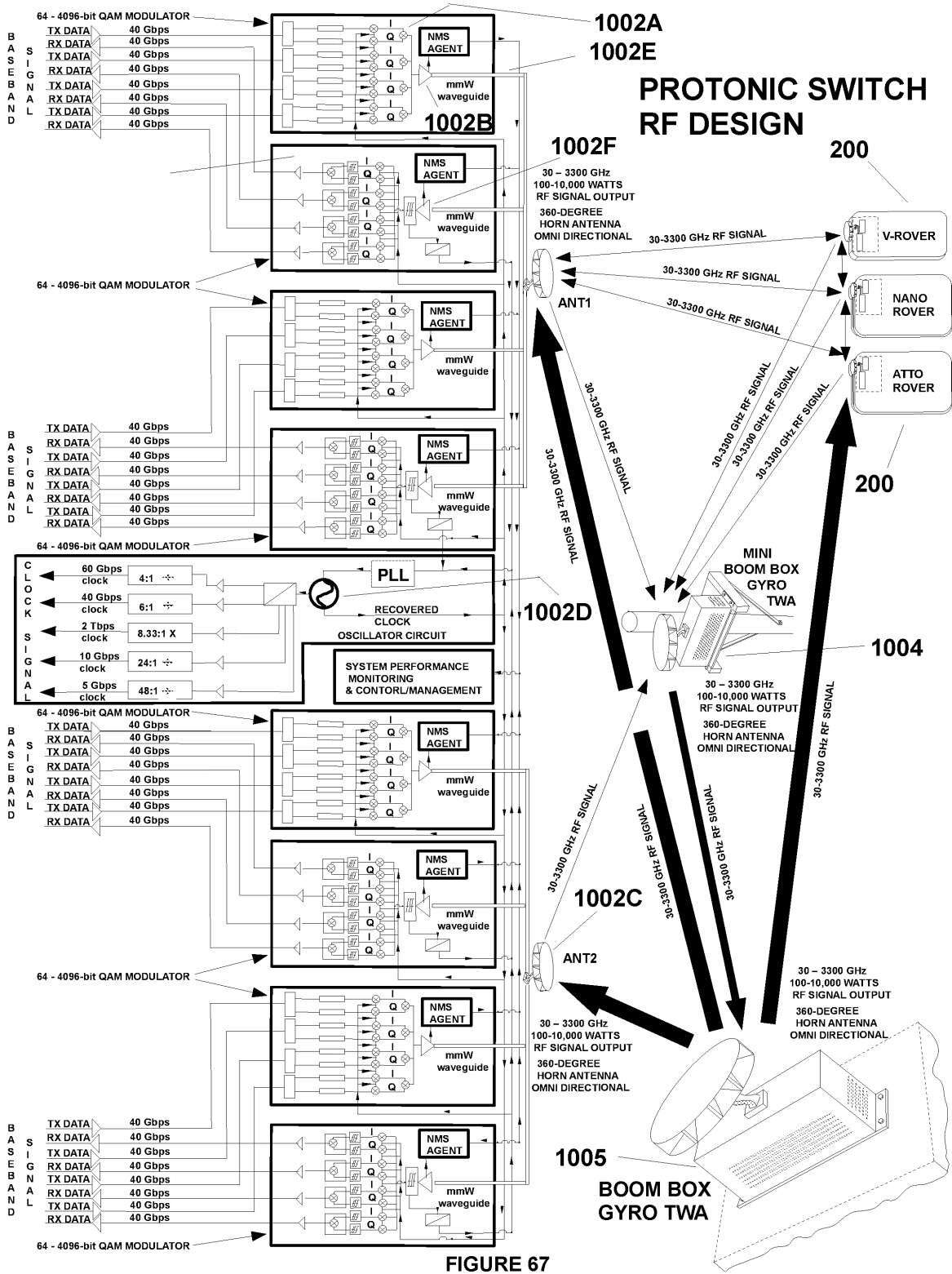
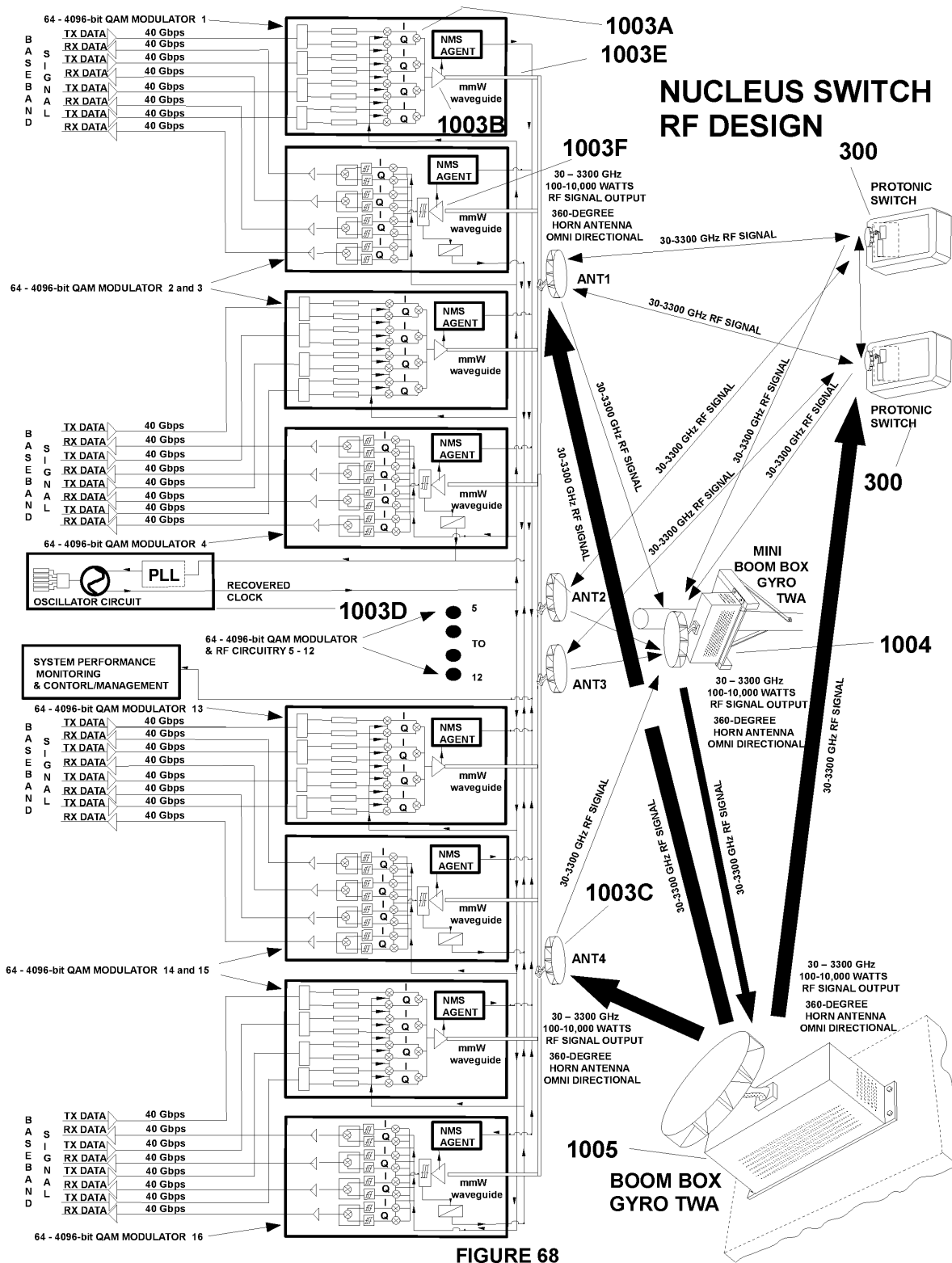


FIGURE 66





ATTOBAHN NETWORK INFRASTRUCTURE MILLIMETER WAVE ANTENNA ARCHITECTURE

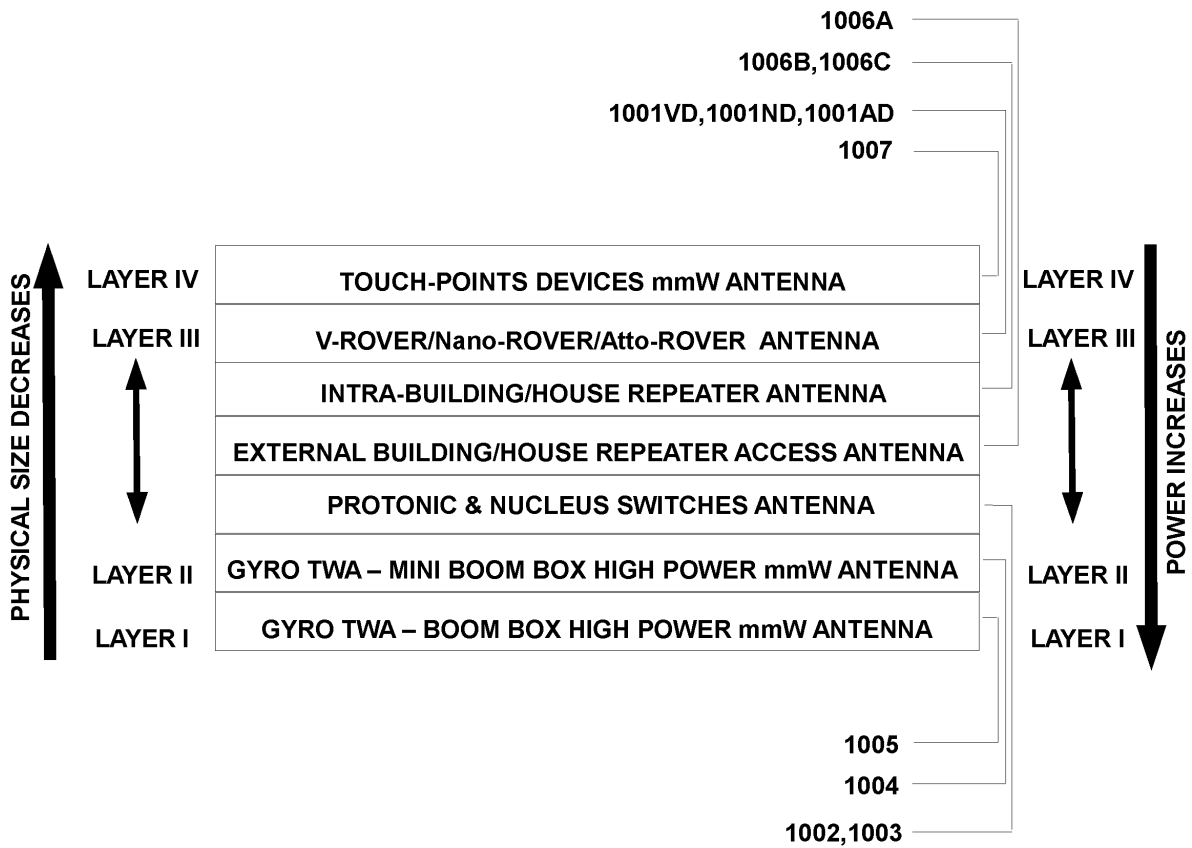


FIGURE 69

ATTOBAHN mmW ANTENNA ARCHITECTURE

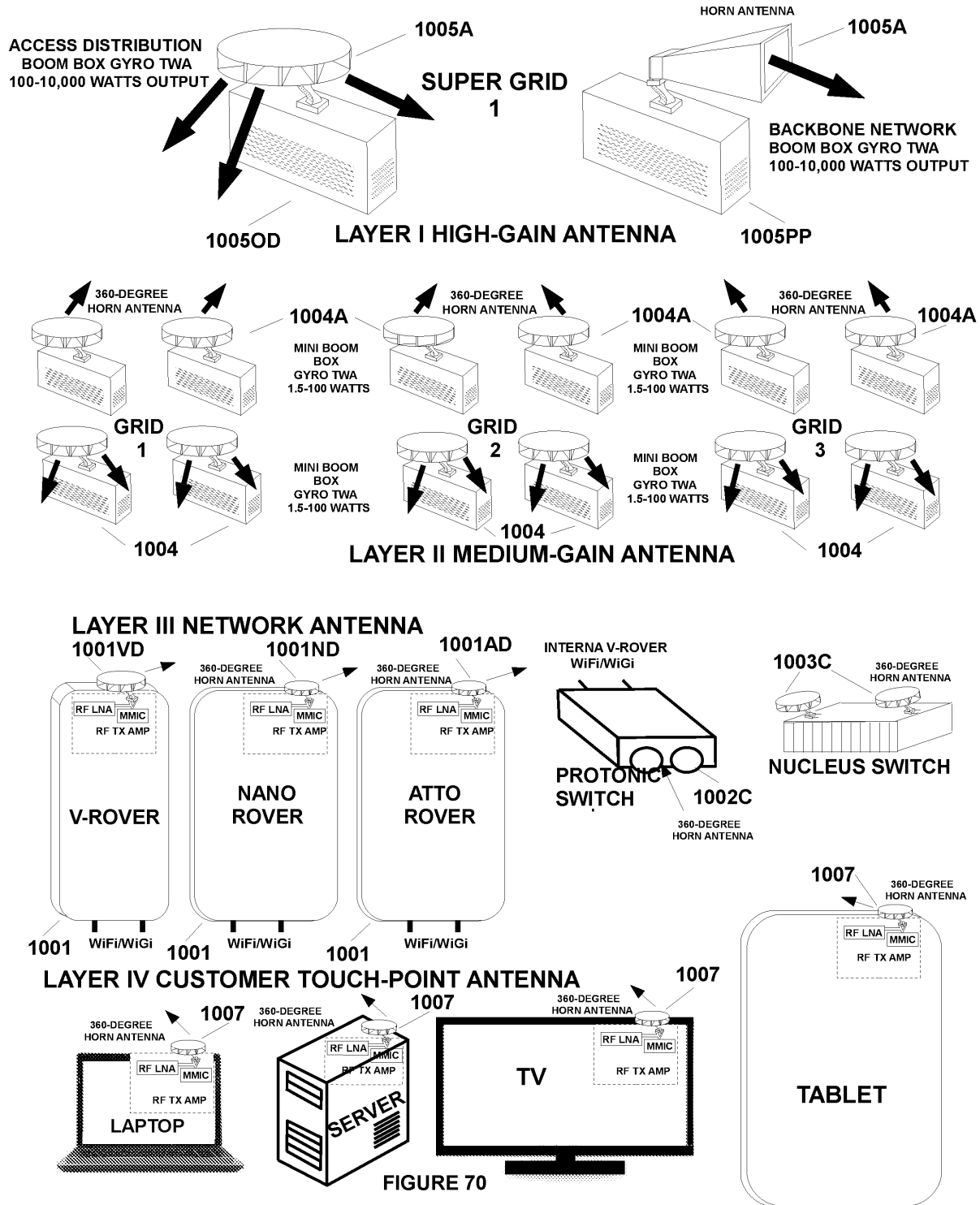
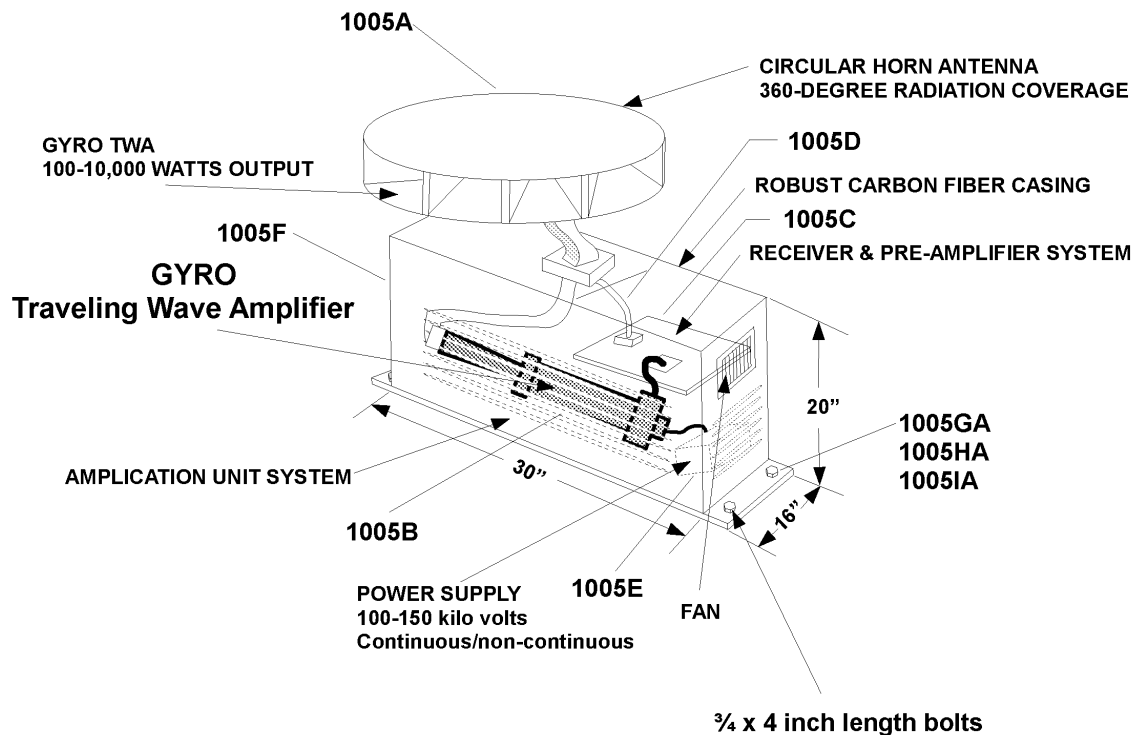


FIGURE 70

ATTOBHAN ULTRA-HIGH POWER mmW AMPLIFIER SYSTEM

OMNI-DIRECTIONAL/MULTI-POINT BOOM BOX mmW AMPLIFIER CIRCULAR FEED HORN

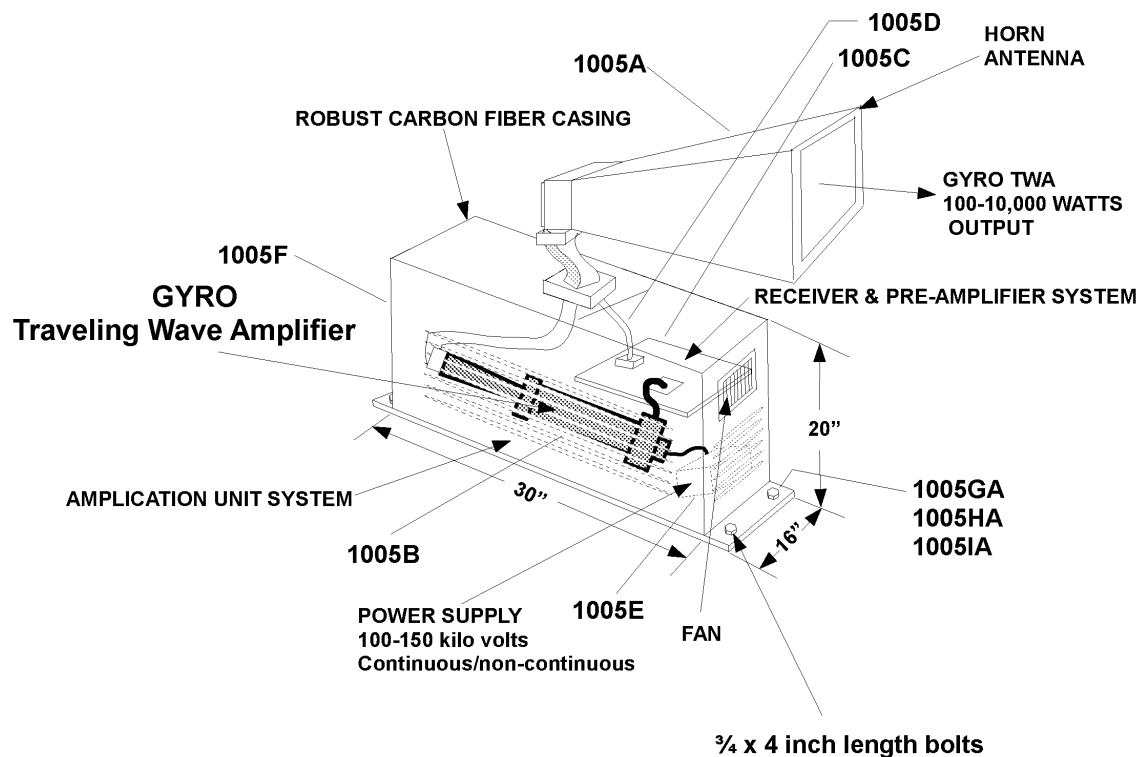


ATTOBAHN BOOM BOX GYRO TWA SYSTEM DESIGN

FIGURE 71

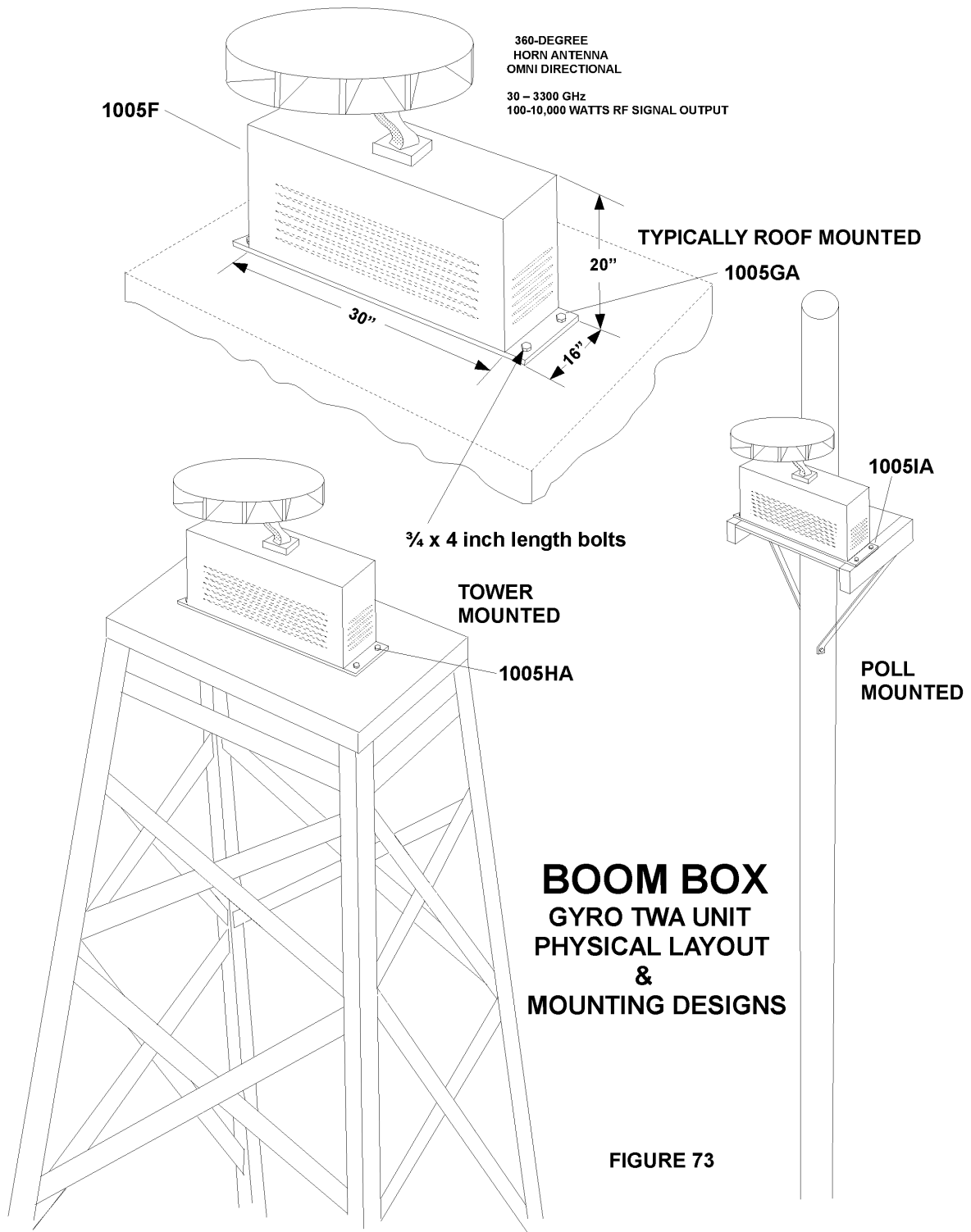
ATTOBHAN ULTRA-HIGH POWER mmW AMPLIFIER SYSTEM

POINT-TO-POINT BACKBONE
BOOM BOX mmW AMPLIFIER
RECTANGULAR FEED HORN



ATTOBAHN BOOM BOX
GYRO TWA SYSTEM DESIGN
BACKBONE NETWORK

FIGURE 72



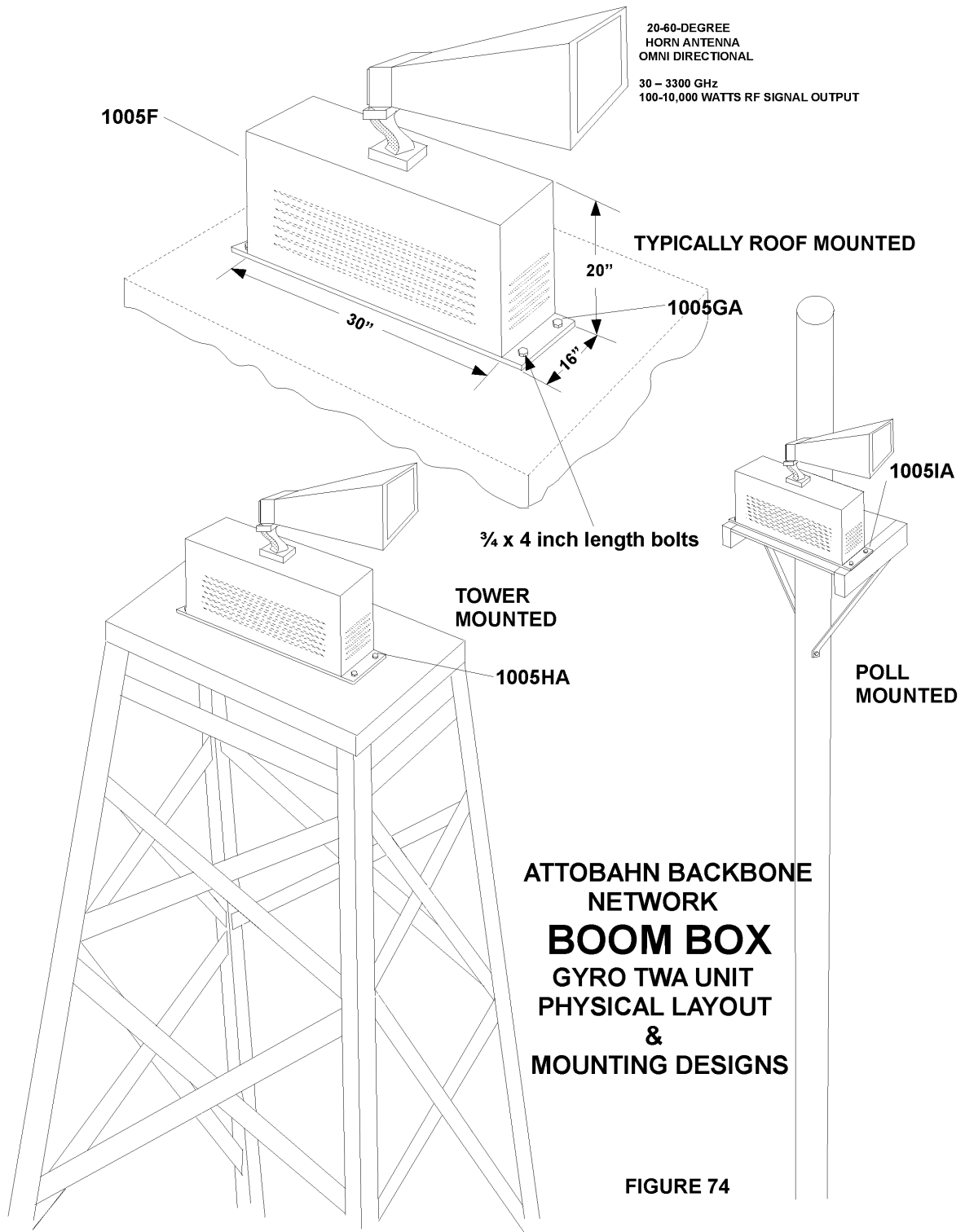
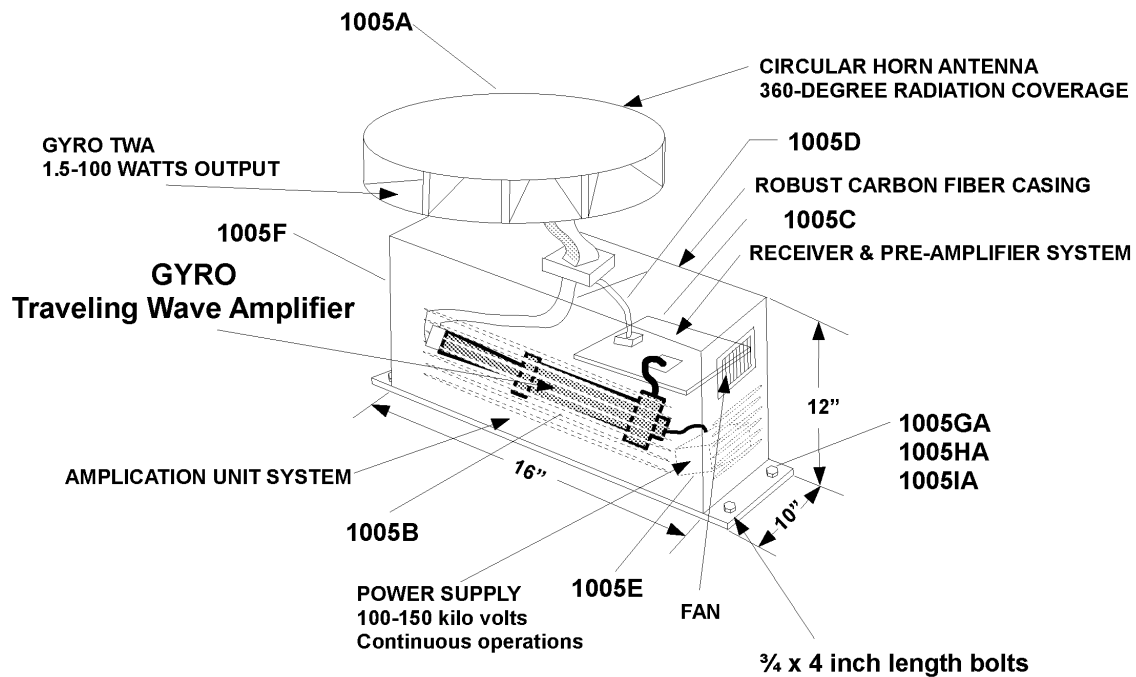


FIGURE 74

ATTOBHAN HIGH POWER mmW AMPLIFIER SYSTEM

MINI BOOM BOX mmW AMPLIFIER



ATTOBAHN MINI BOOM BOX GYRO TWA SYSTEM DESIGN

FIGURE 75

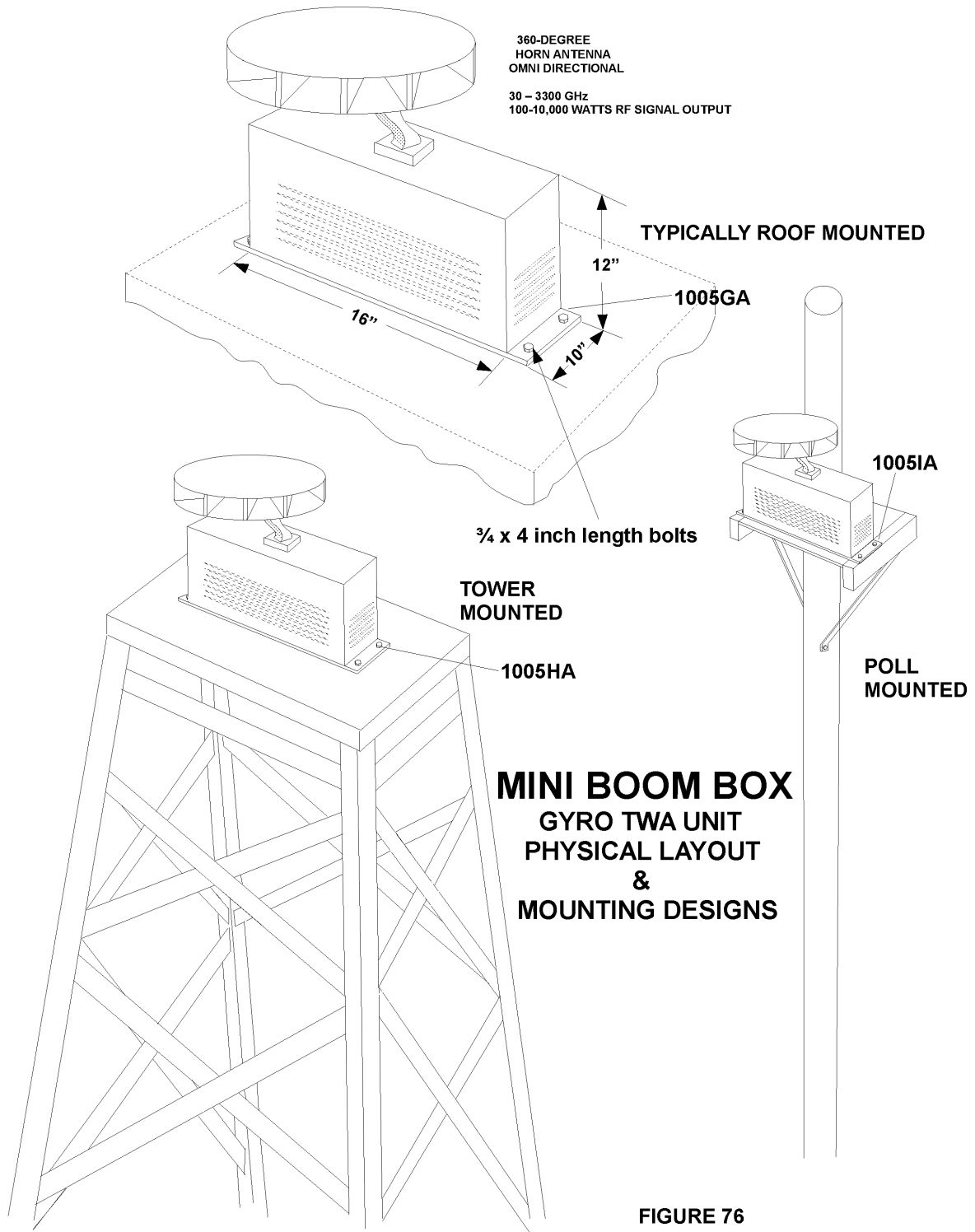
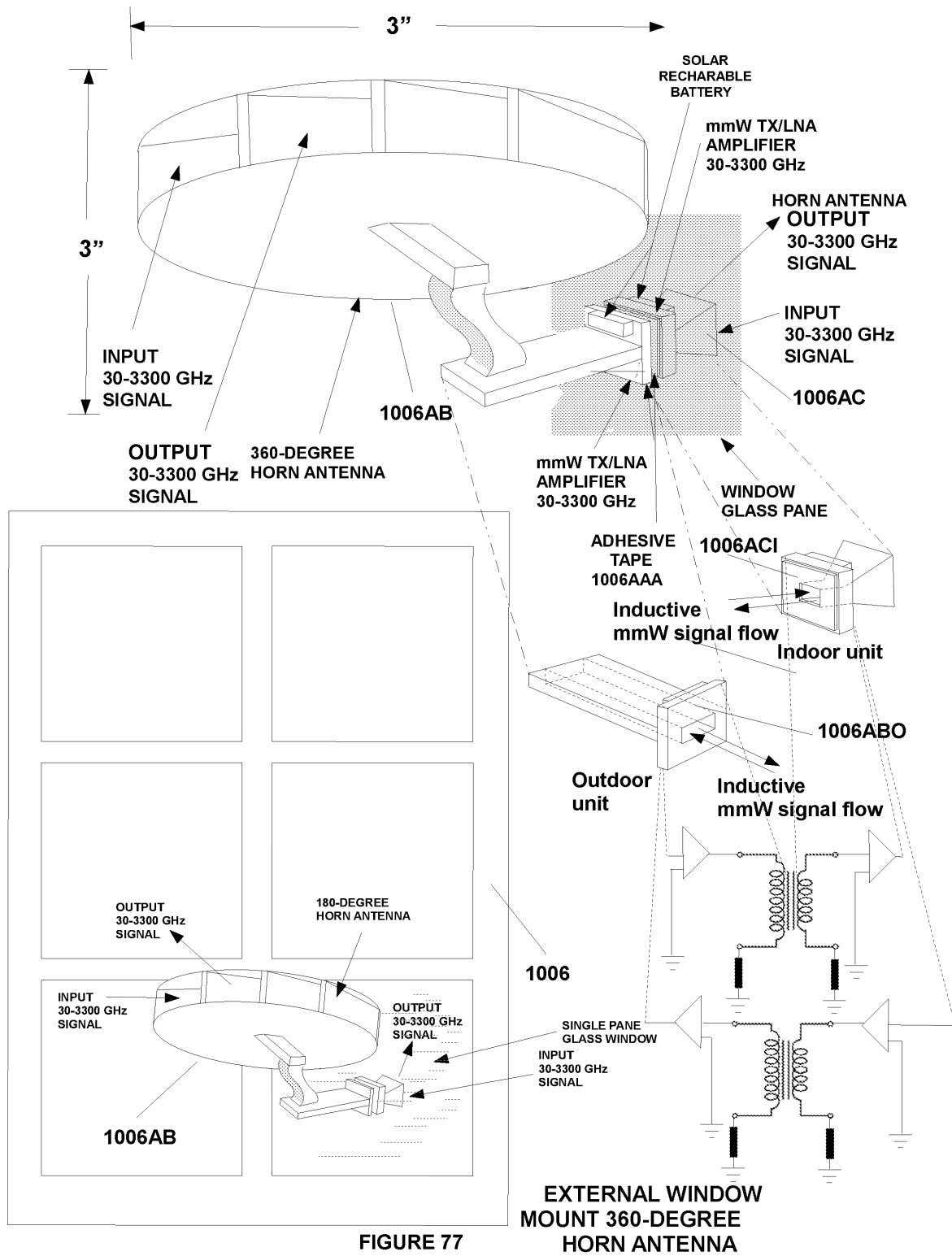
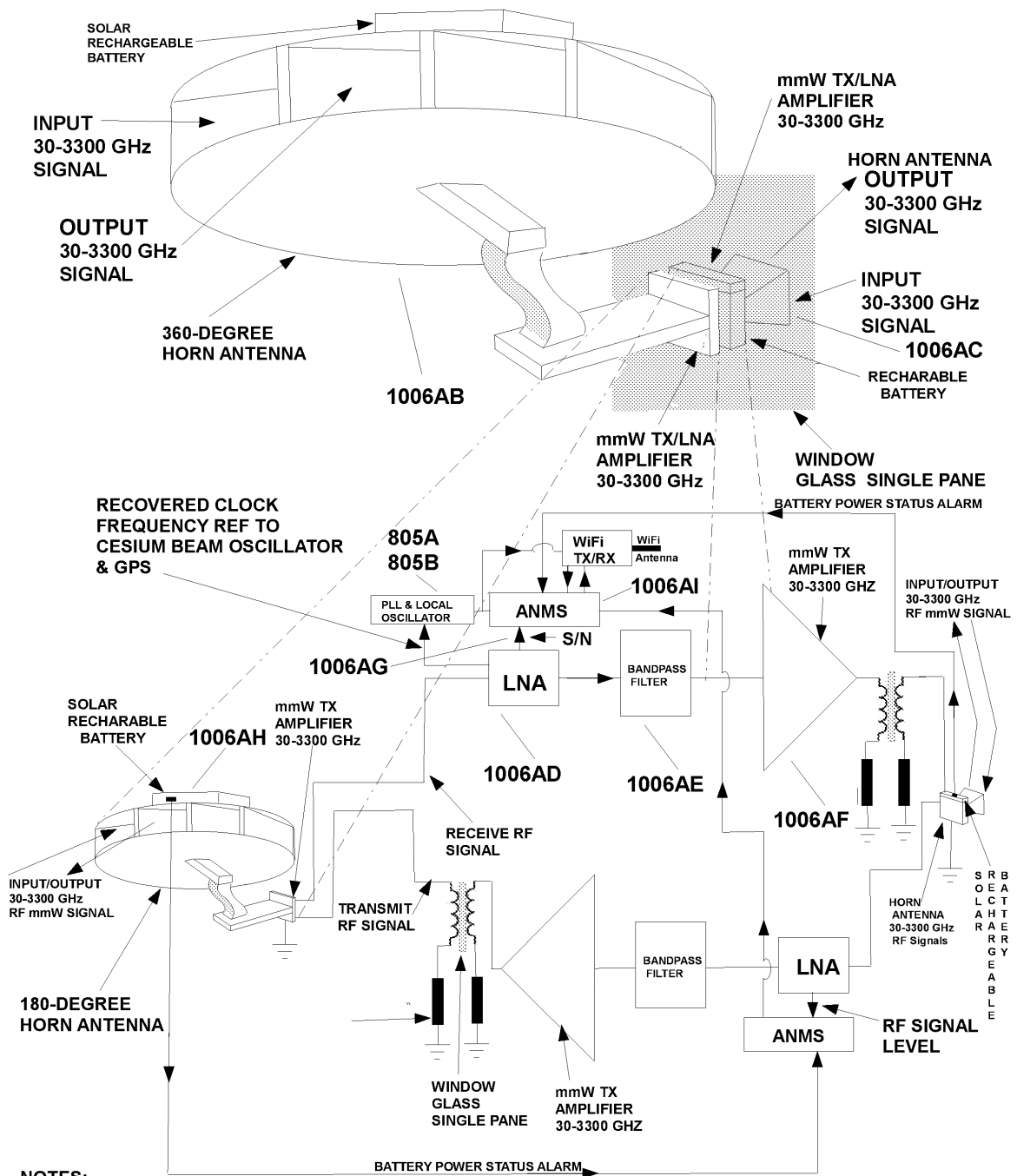


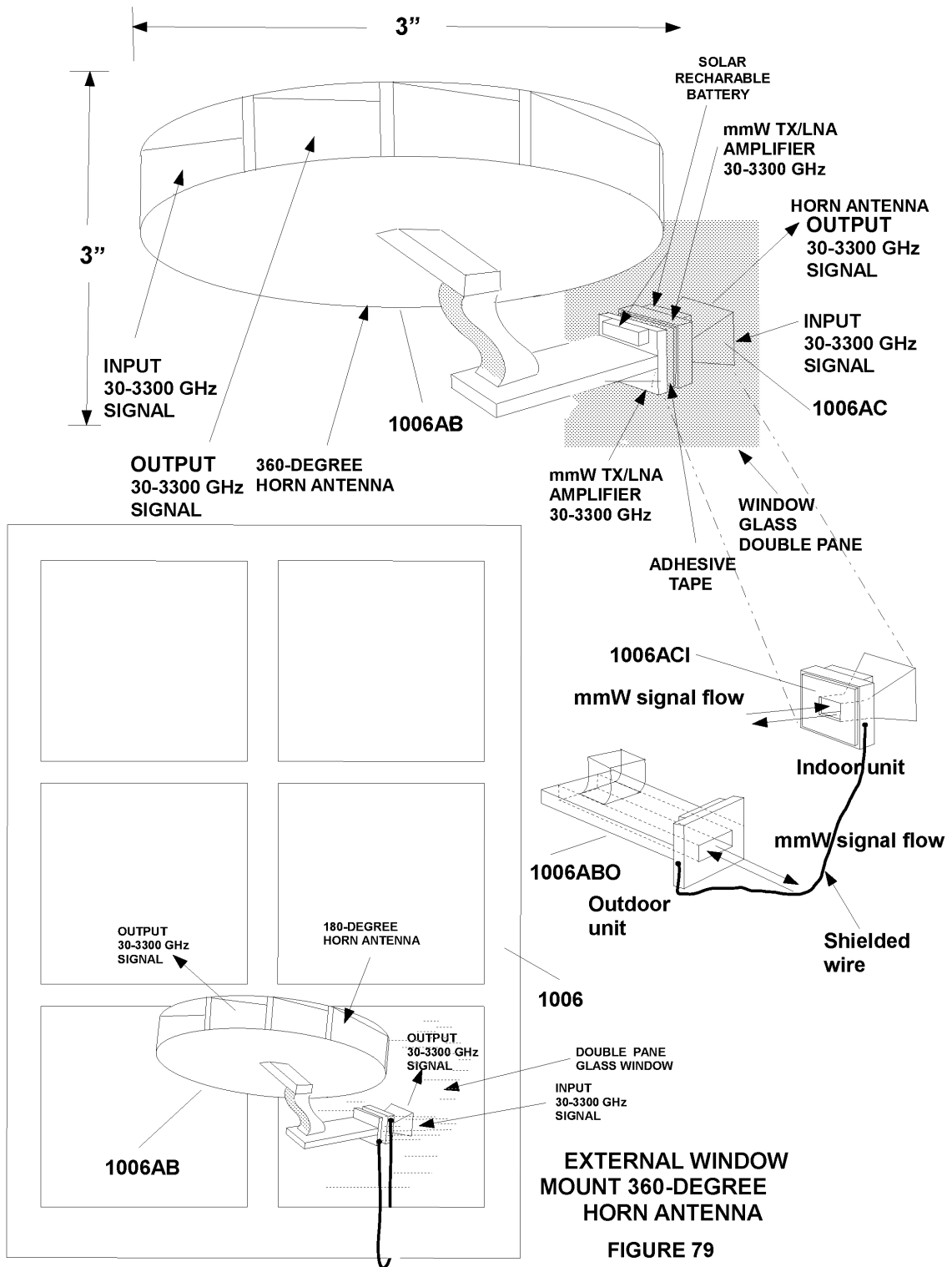
FIGURE 76

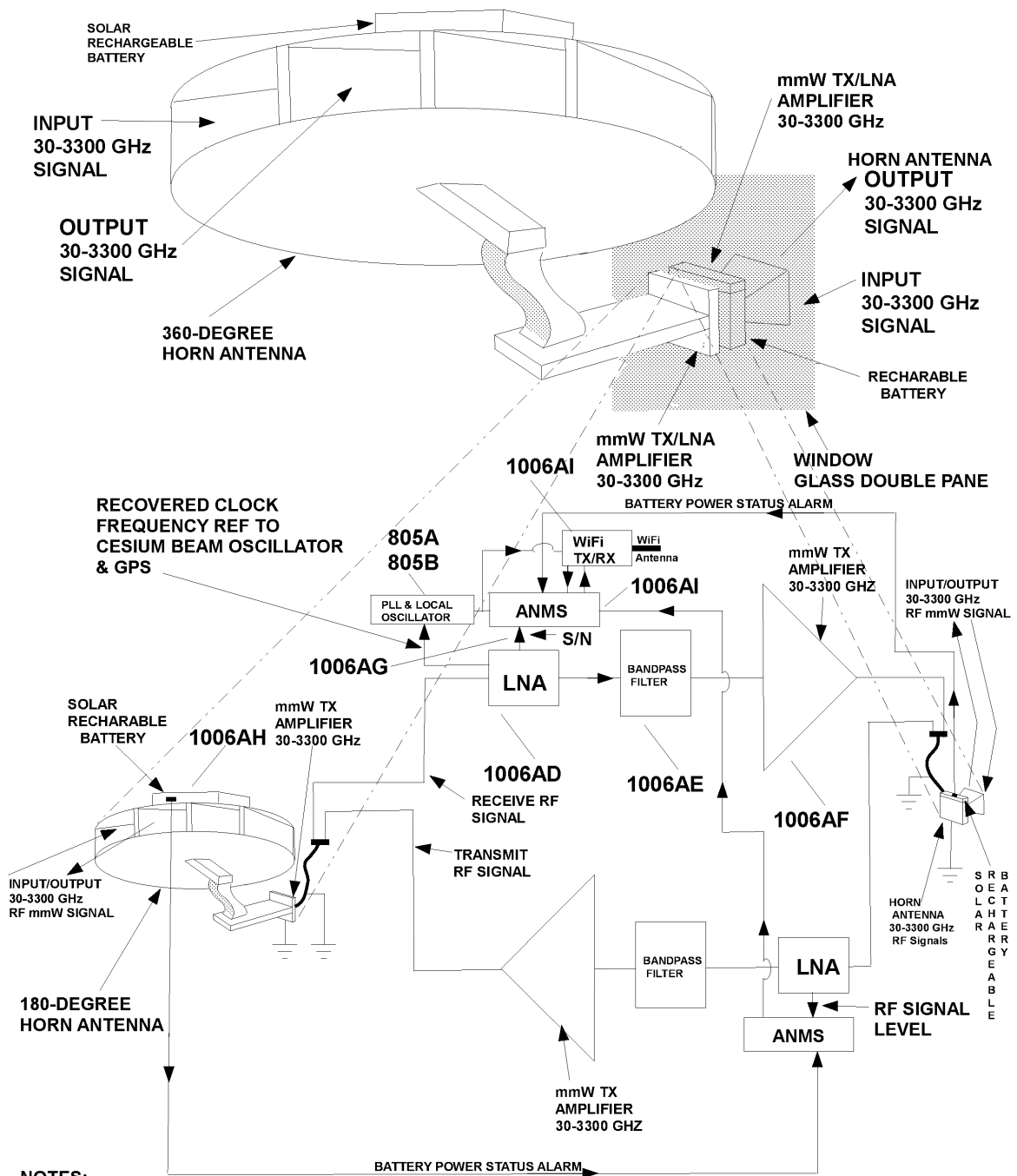




**ATTOBAHN HOUSE/BUILDING
WINDOW-MOUNT 360-DEGREE HORN ANTENNA
mmW AMPLIFIER REPEATER DESIGN**

FIGURE 78





NOTES:

1. ANMS: Attobahn Network Management System
2. mmW: millimeter wave

**ATTOBAHN HOUSE/BUILDING
WINDOW-MOUNT 360-DEGREE HORN ANTENNA
mmW AMPLIFIER REPEATER DESIGN**

FIGURE 80

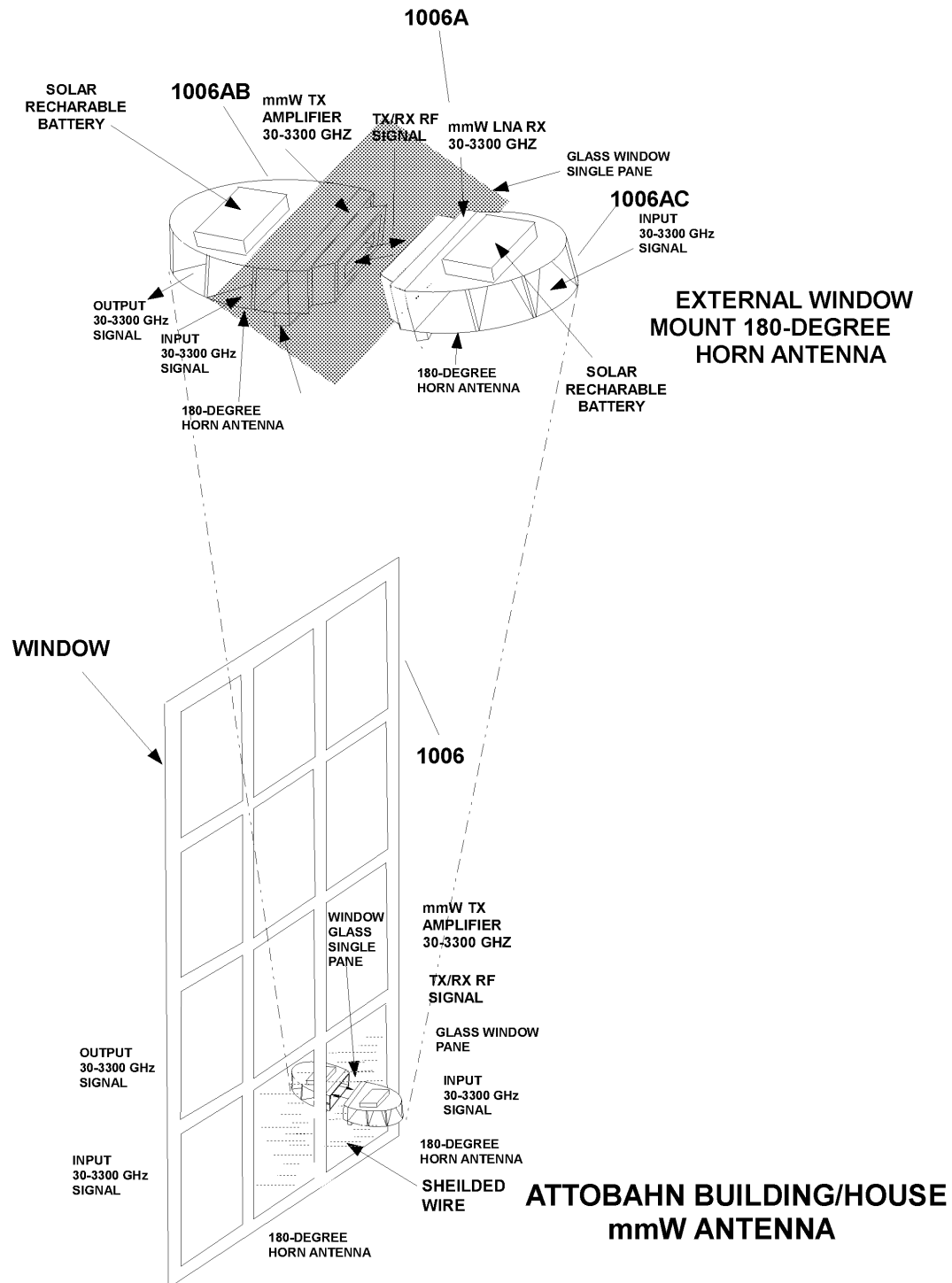
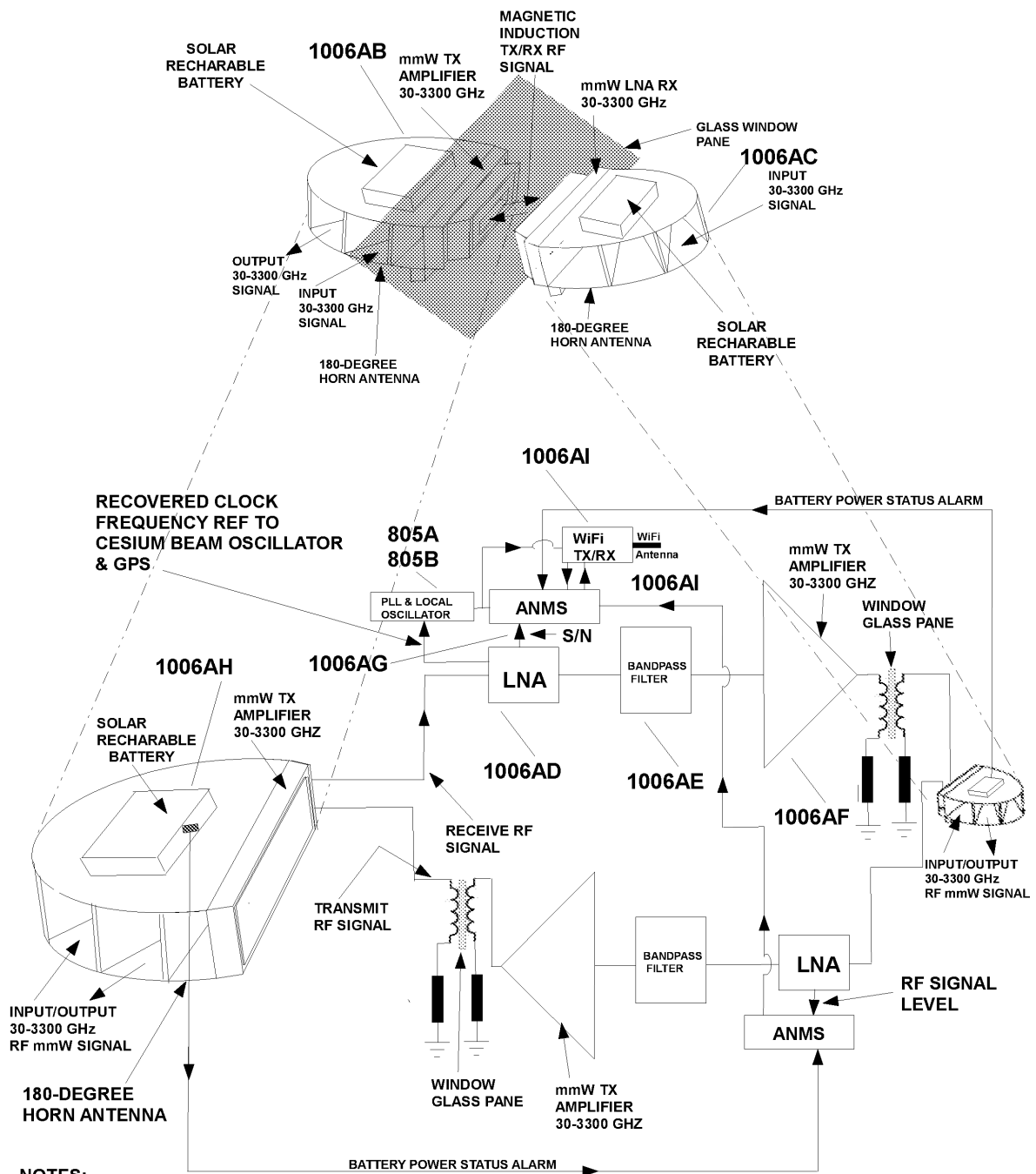


FIGURE 81



**ATTOBAHN HOUSE/BUILDING
WINDOW-MOUNT 180-DEGREE HORN ANTENNA
mmW AMPLIFIER REPEATER DESIGN**

FIGURE 82

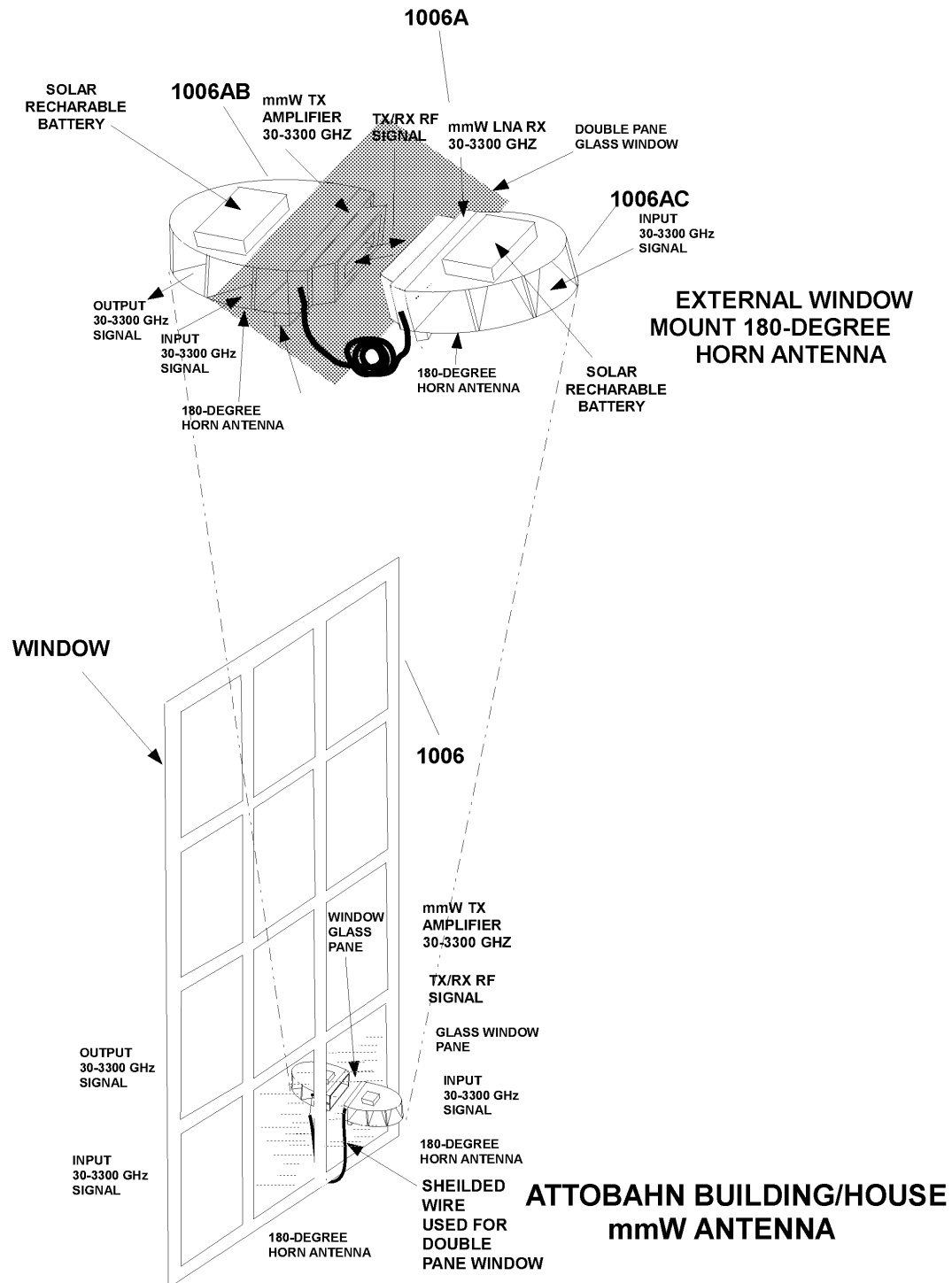
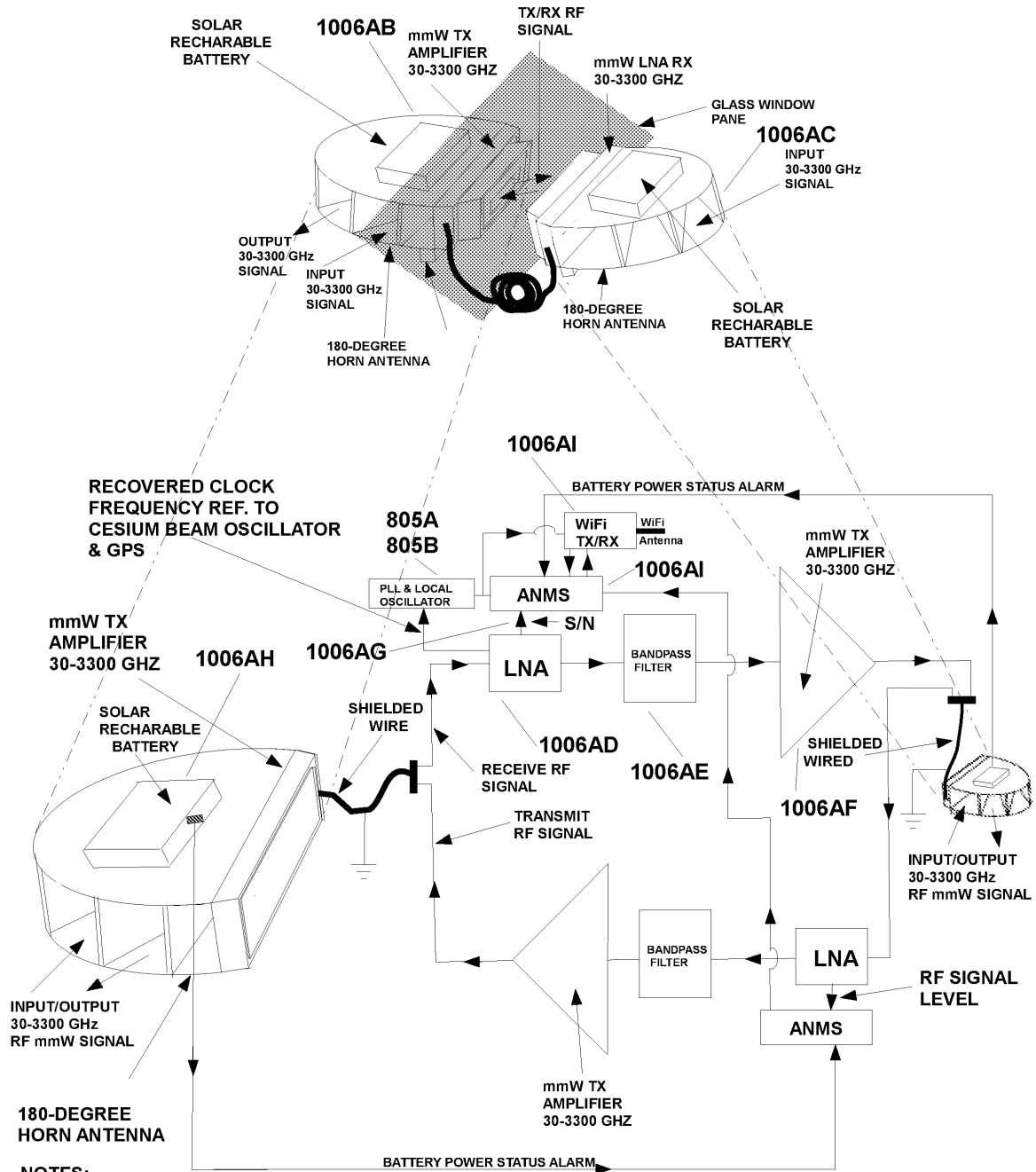


FIGURE 83



**ATTOBAHN HOUSE/BUILDING
 WINDOW-MOUNT 180-DEGREE HORN ANTENNA
 mmW AMPLIFIER REPEATER DESIGN**

FIGURE 84

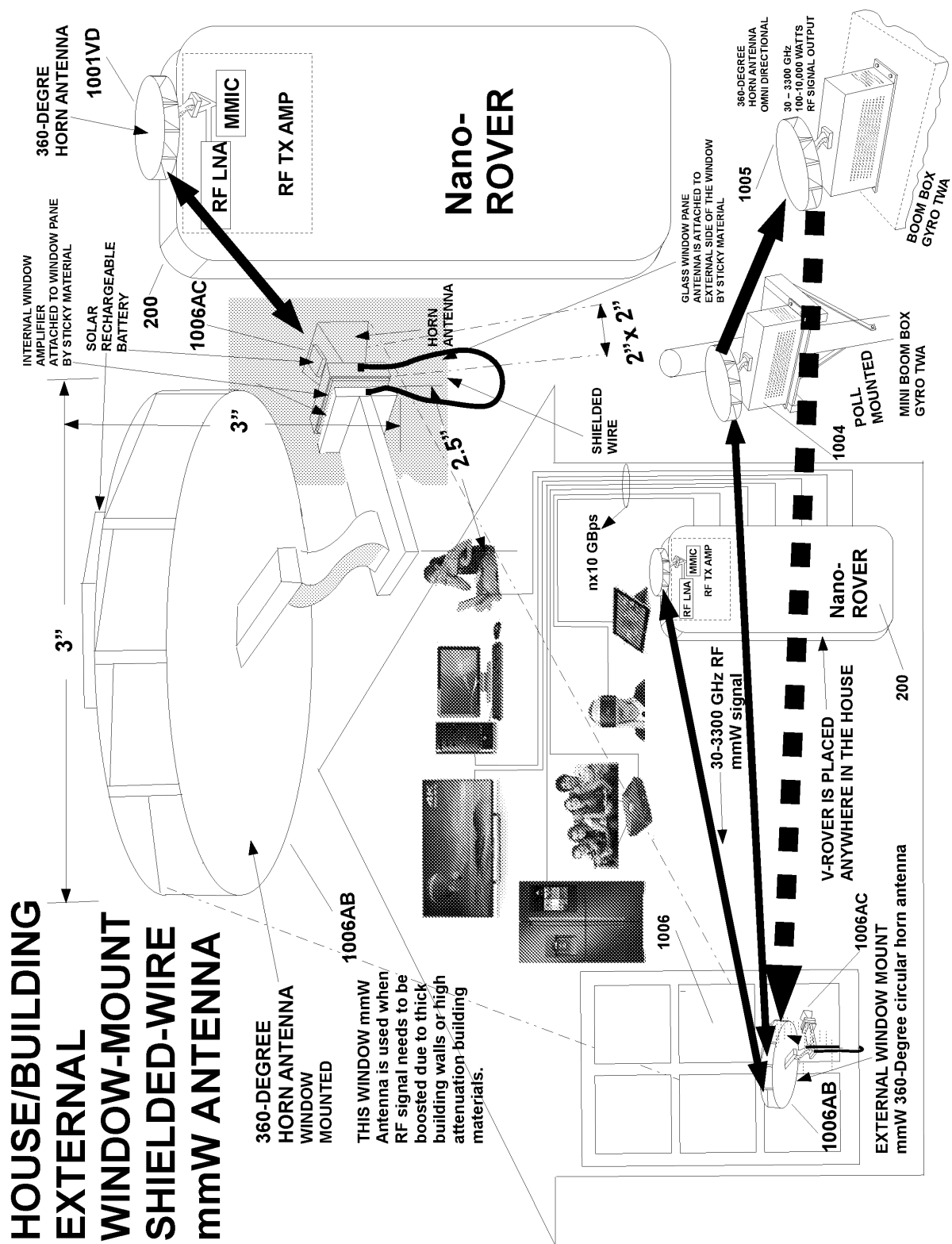
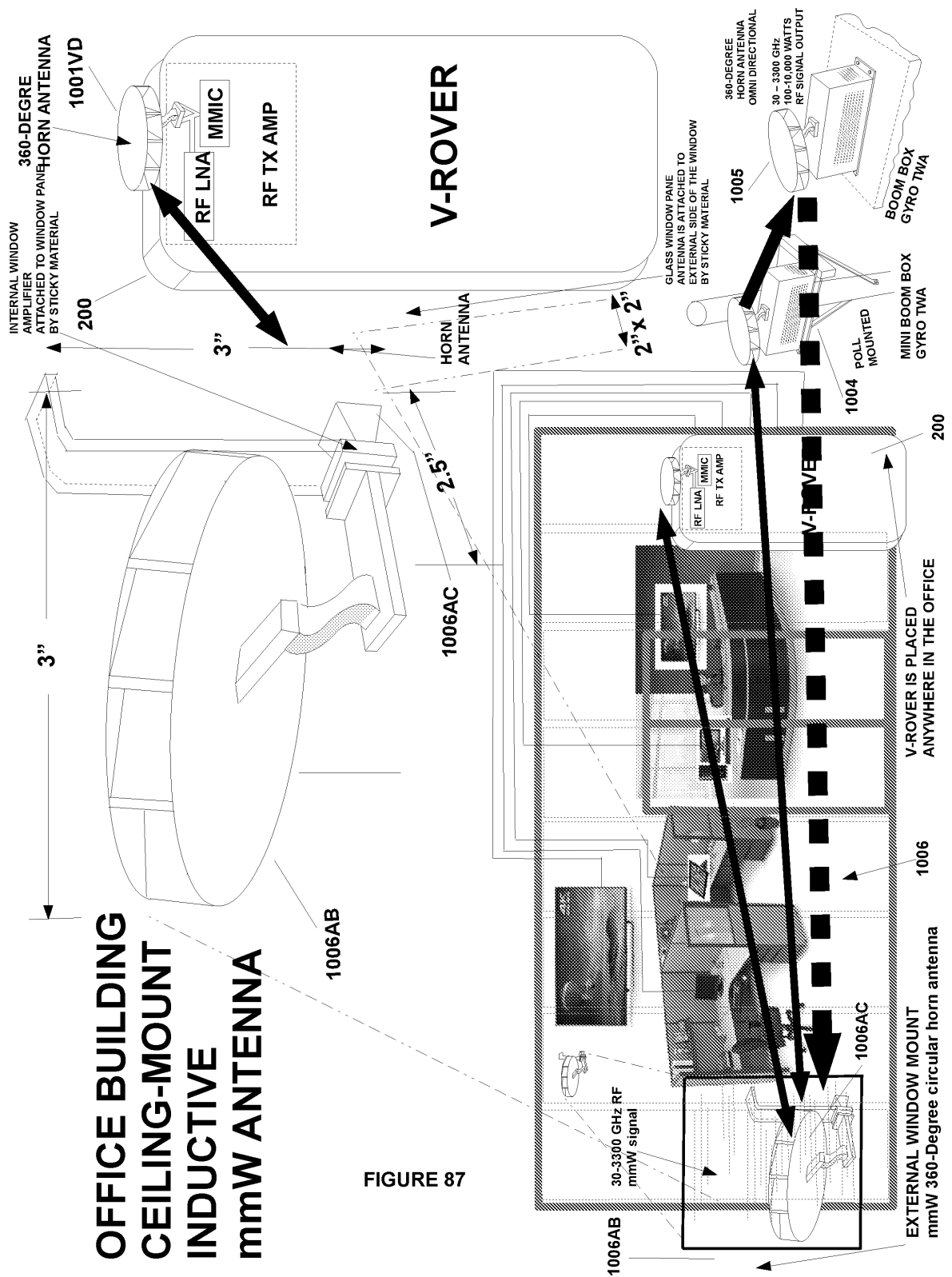


FIGURE 86



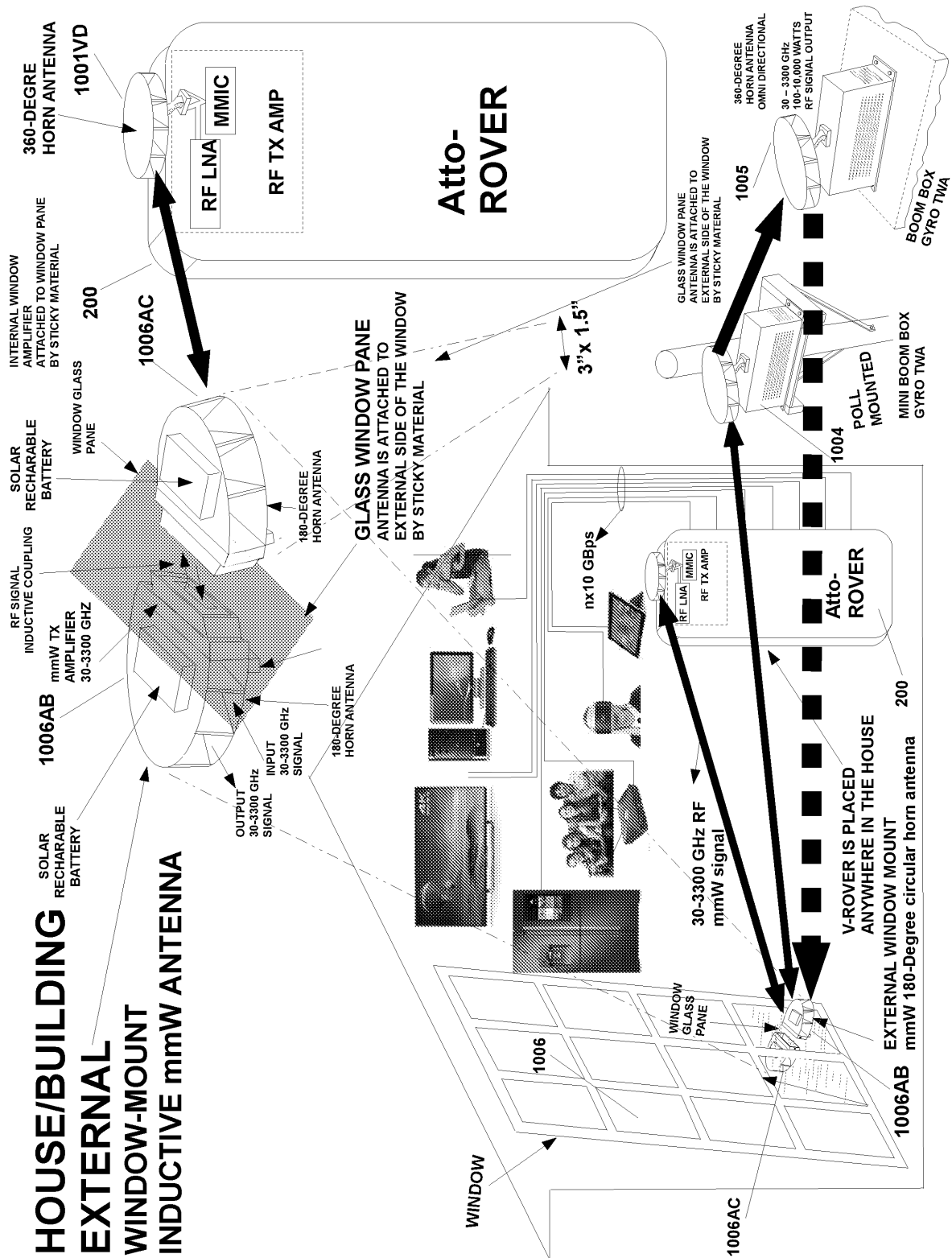


FIGURE 88

HOUSE/BUILDING EXTERNAL WINDOW-MOUNT SHIELDED- WIRE mmW ANTENNA

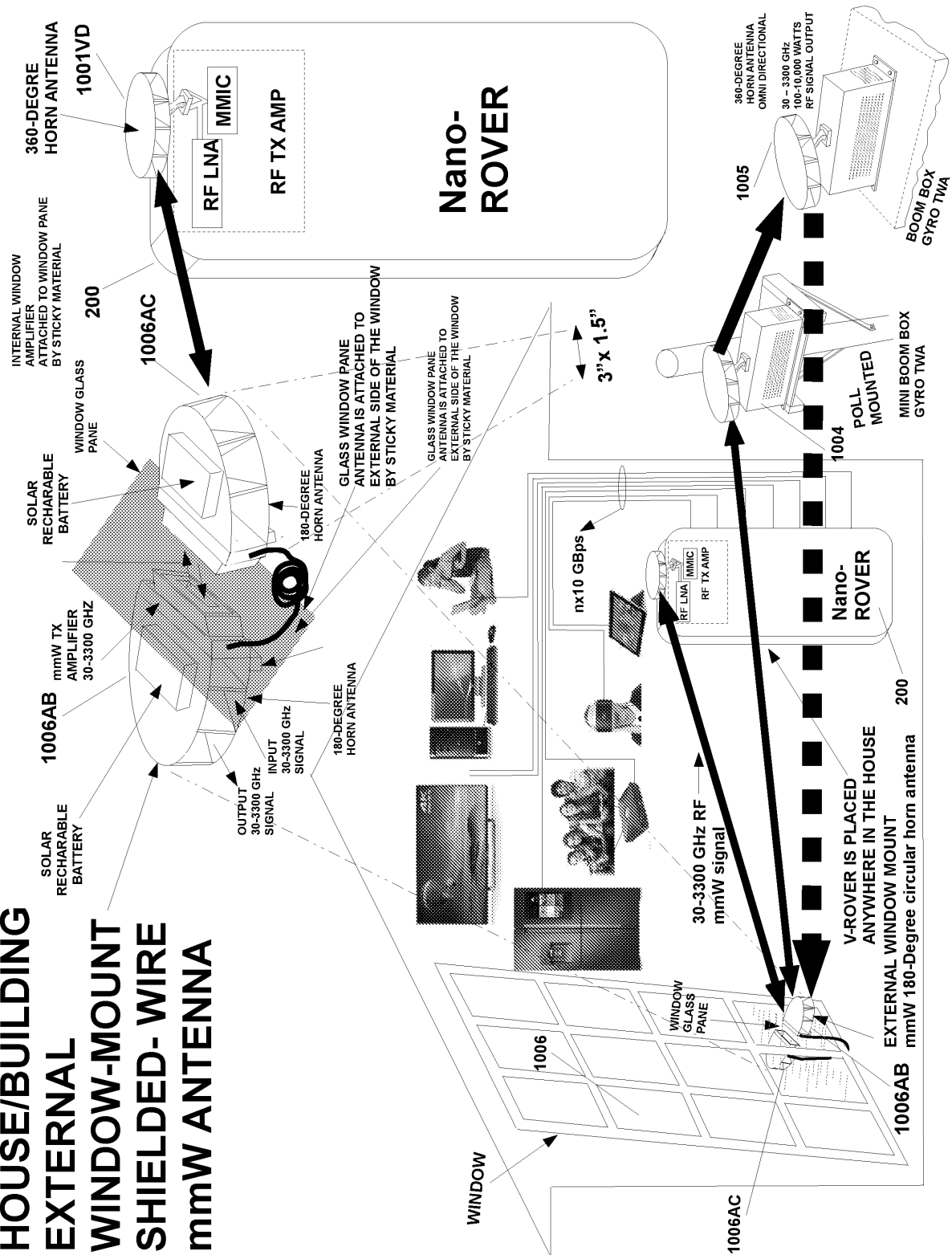
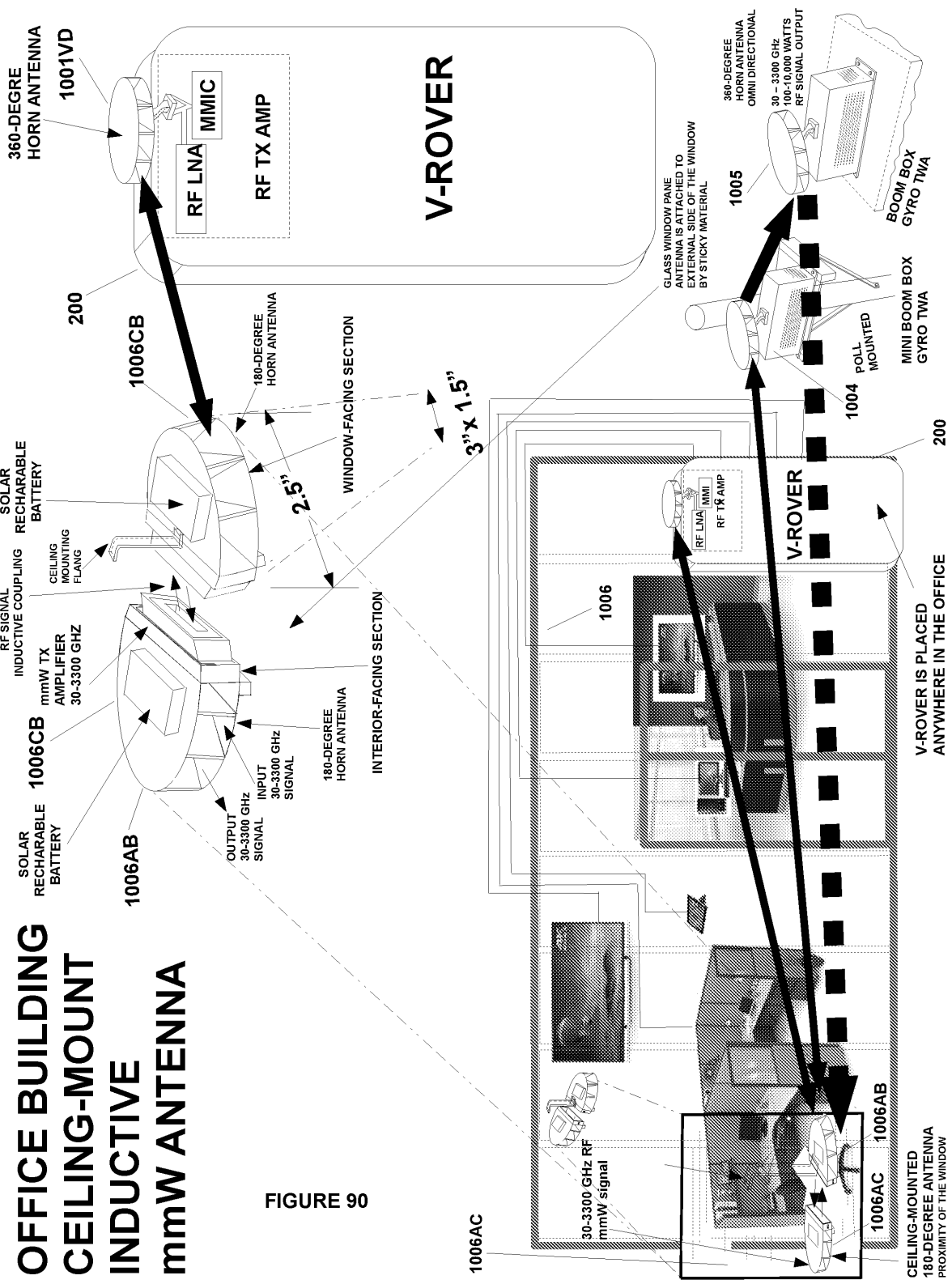
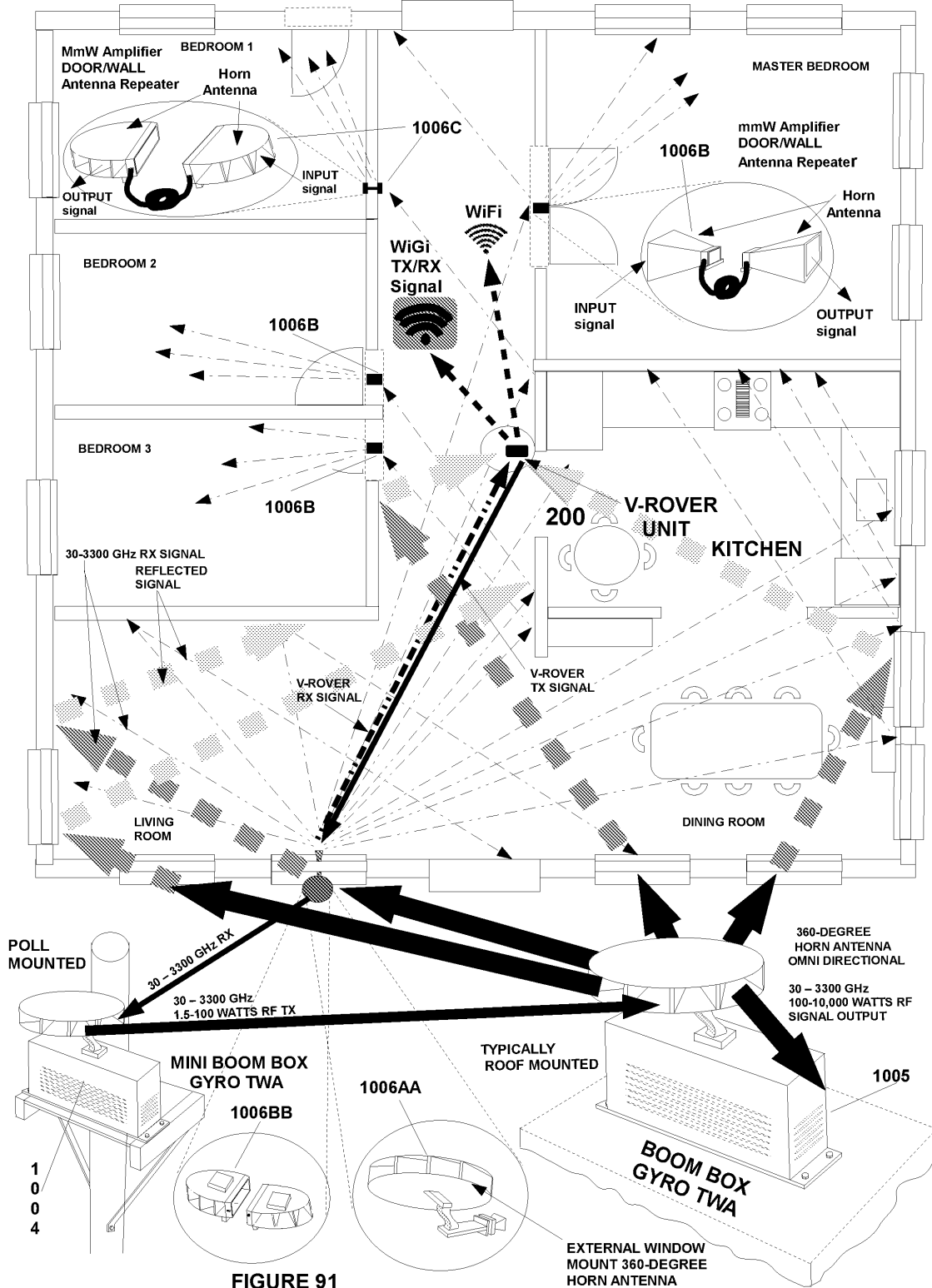


FIGURE 89



mmW 360-DEGREE CIRCULAR HORN ANTENNA HOUSE/BUILDING ARCHITECTURE



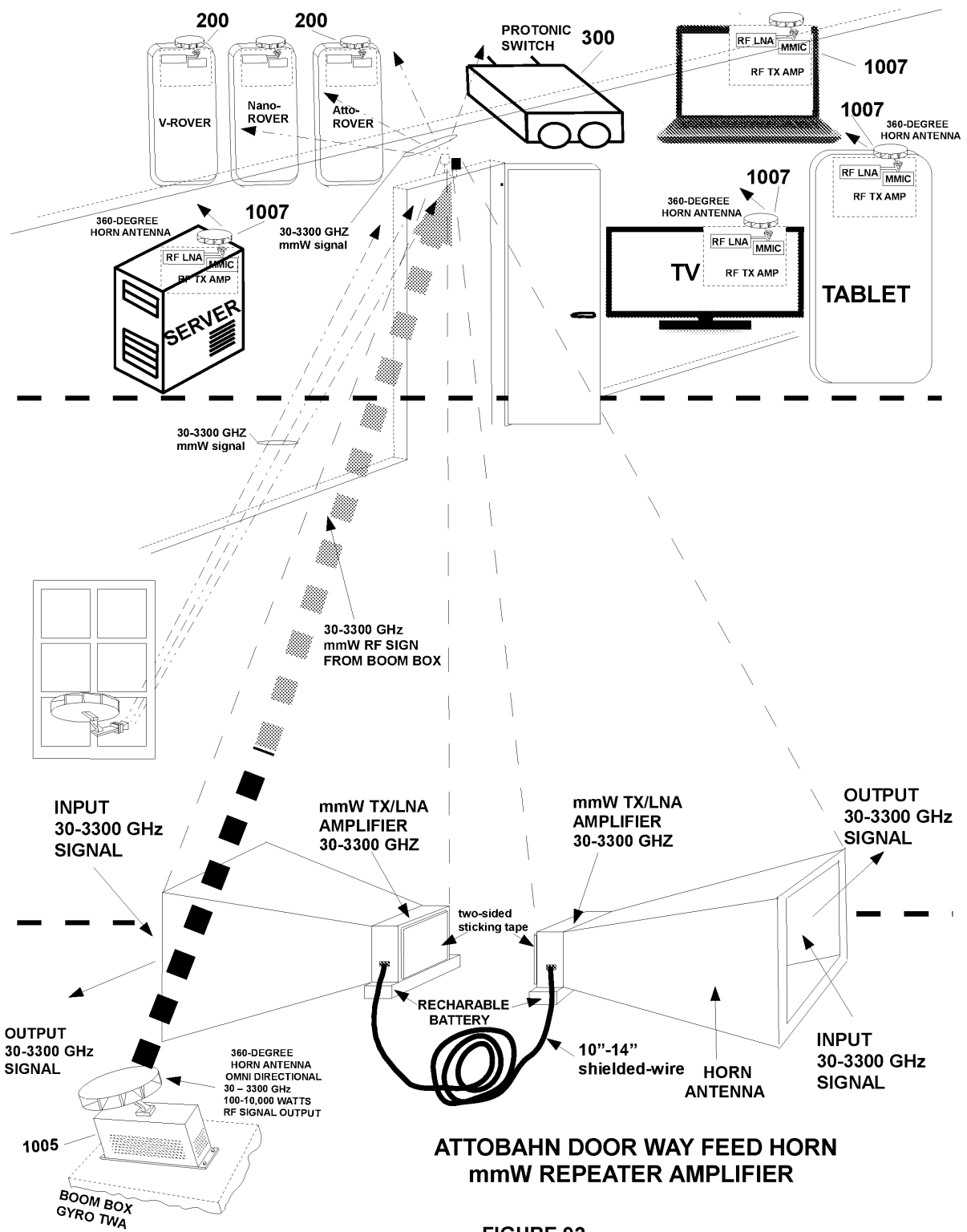
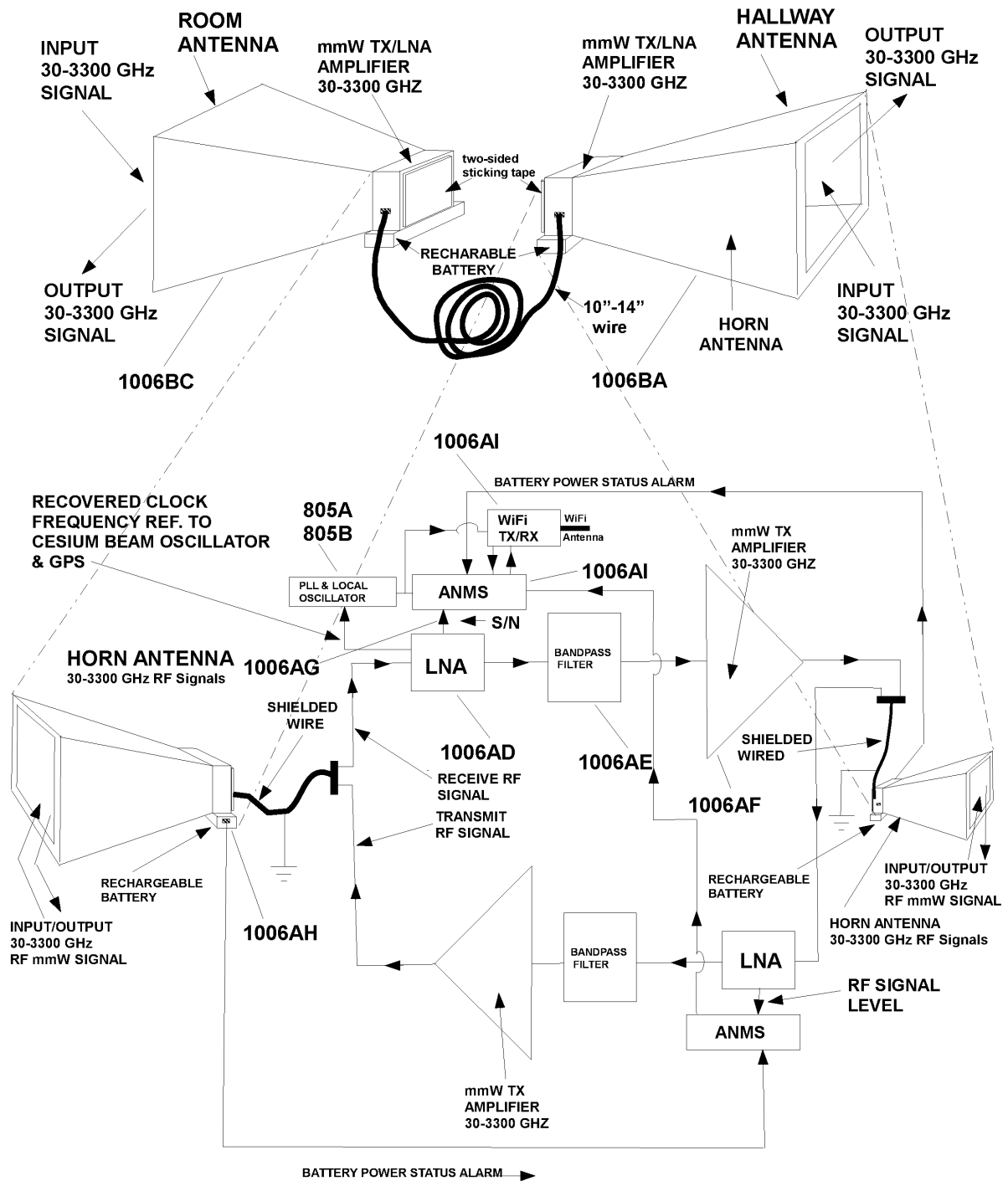


FIGURE 92



ATTOBAHN WALL
mmW AMPLIFIER REPEATER DESIGN
FIGURE 93

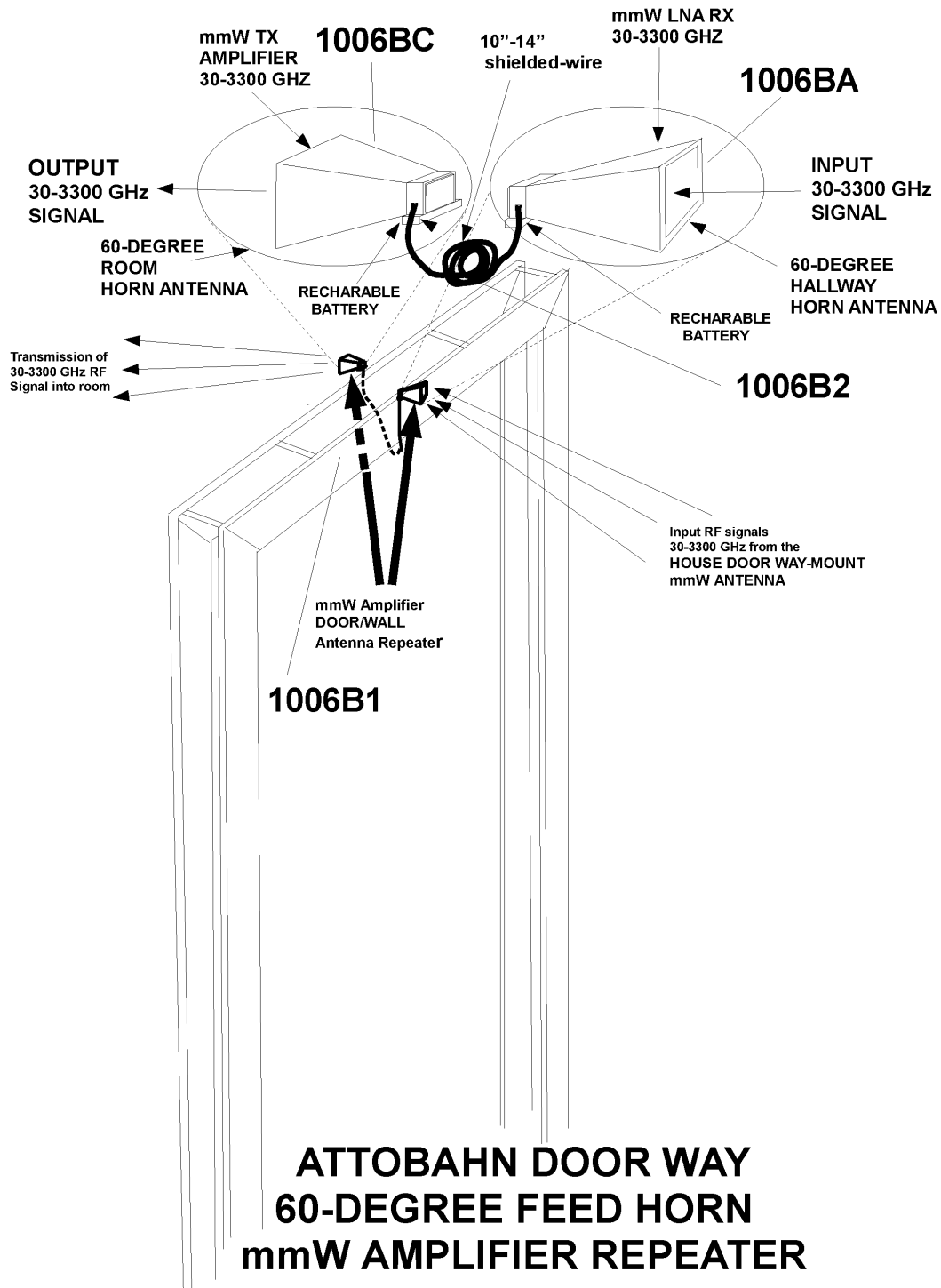


FIGURE 94

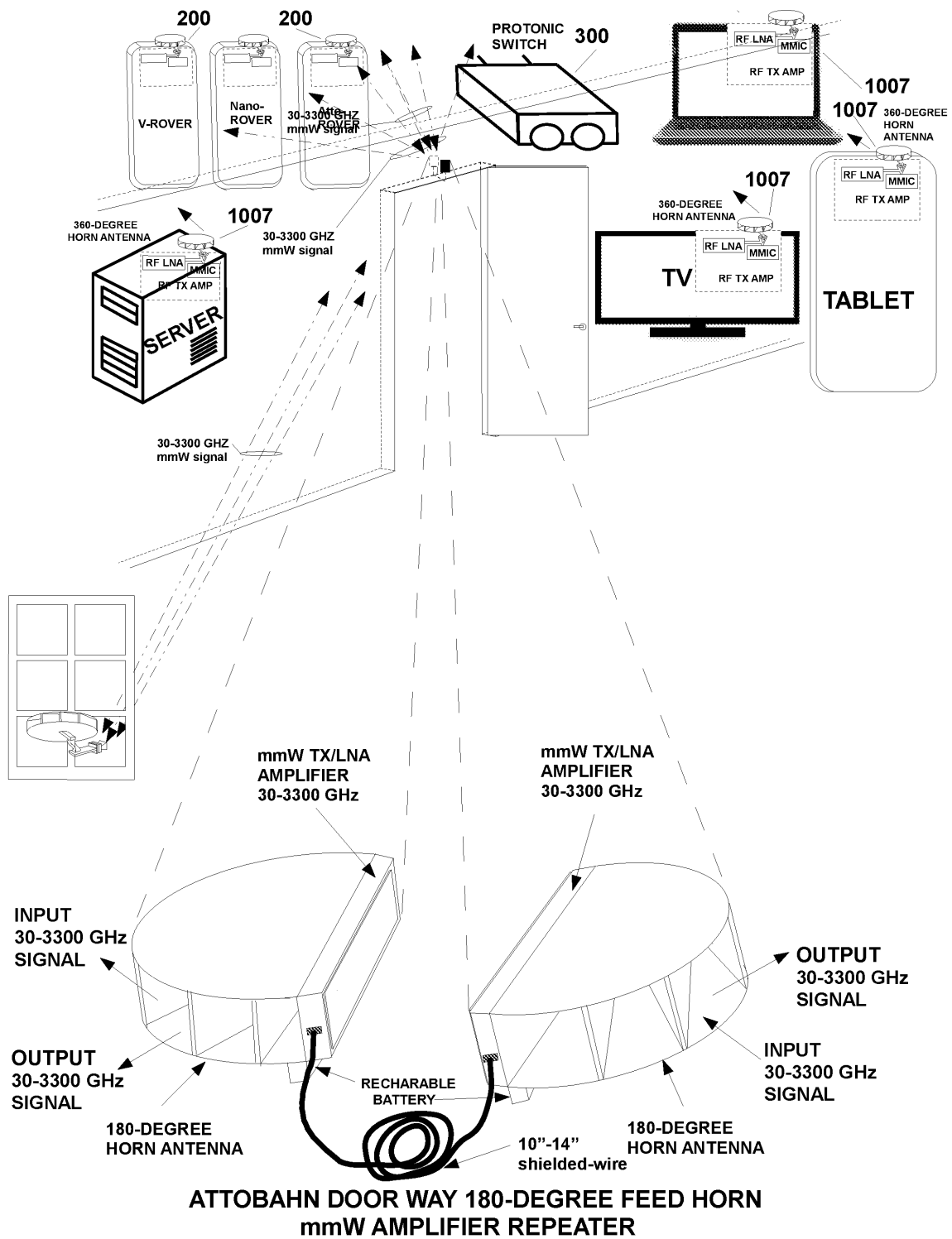


FIGURE 95

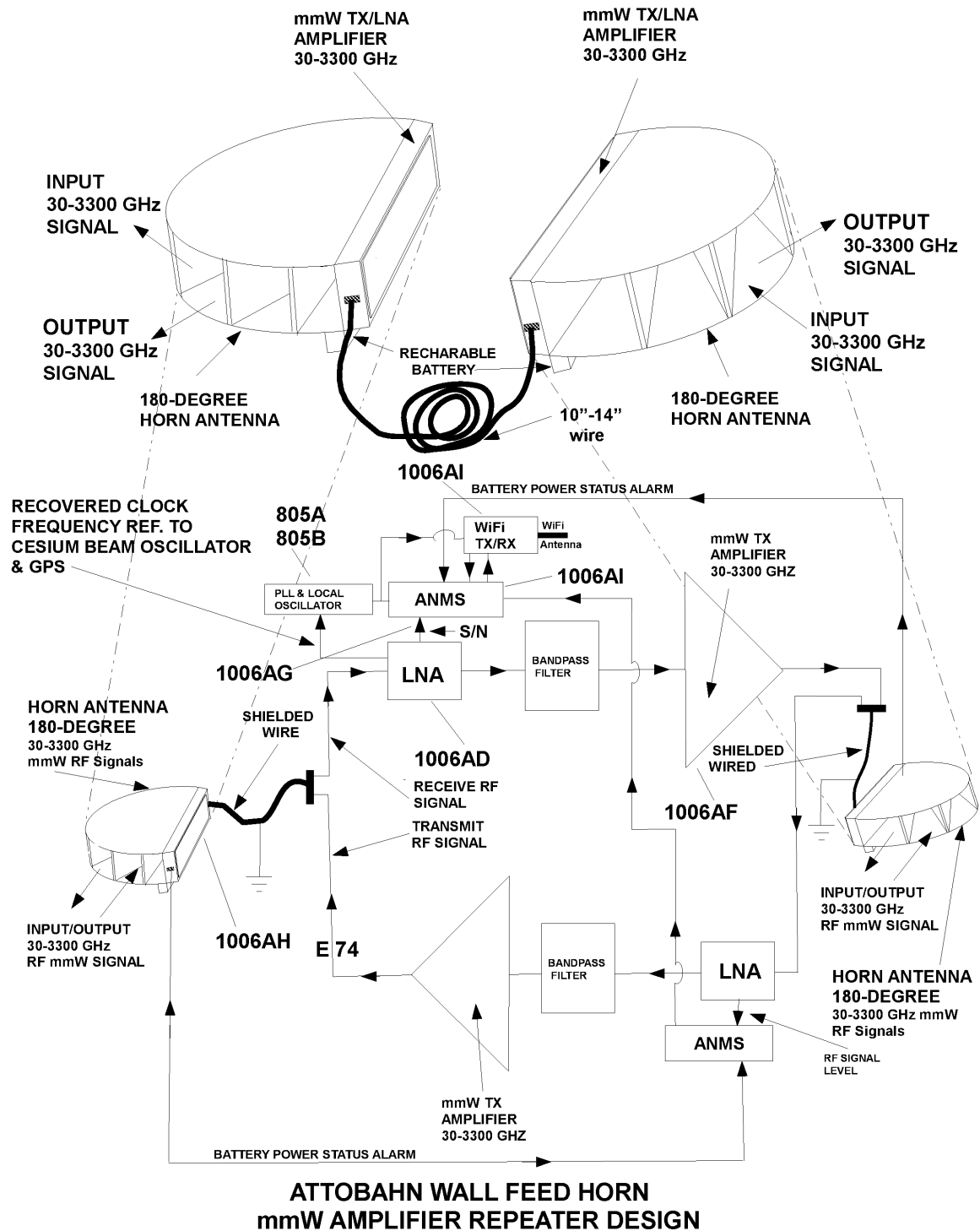


FIGURE 96

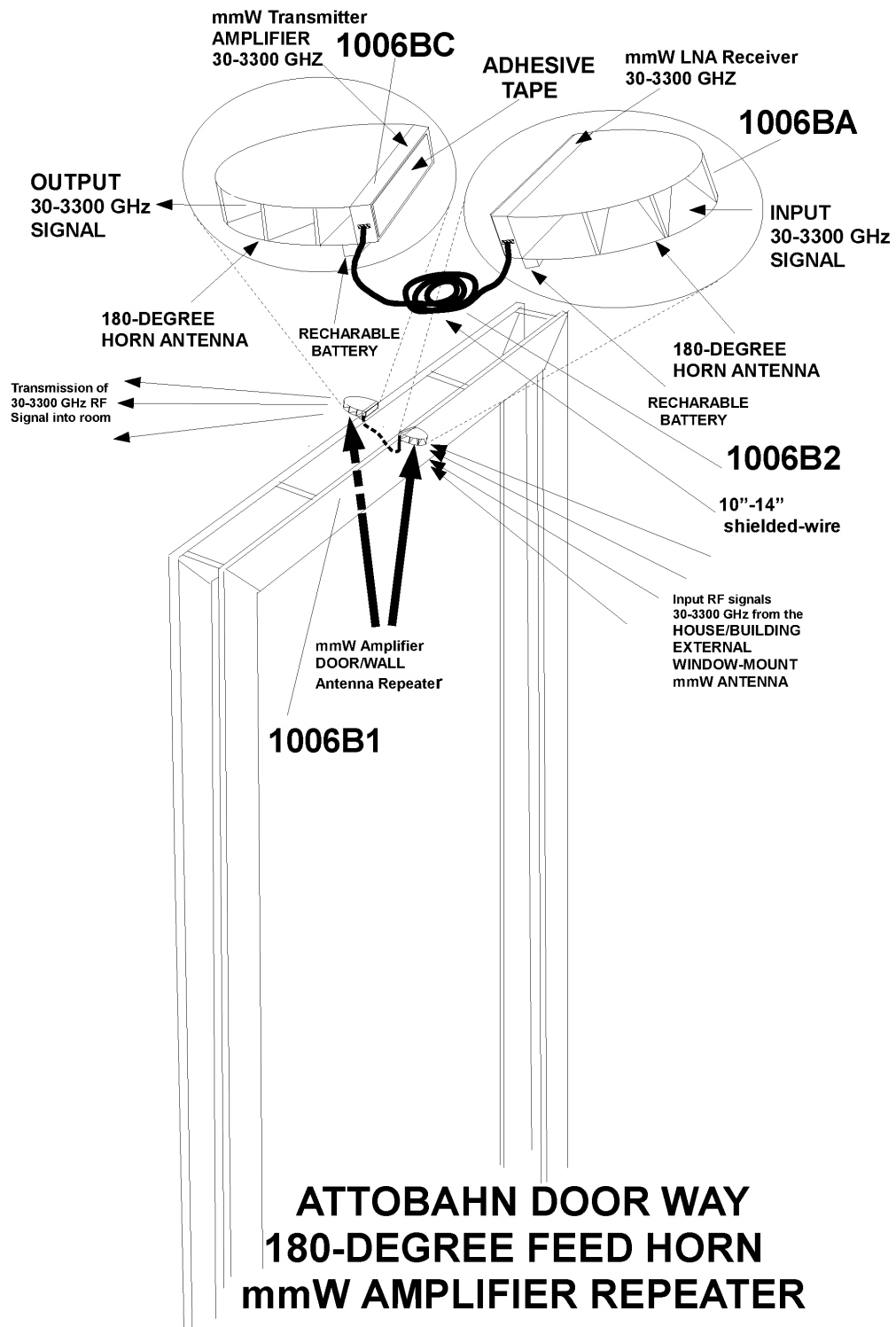


FIGURE 97

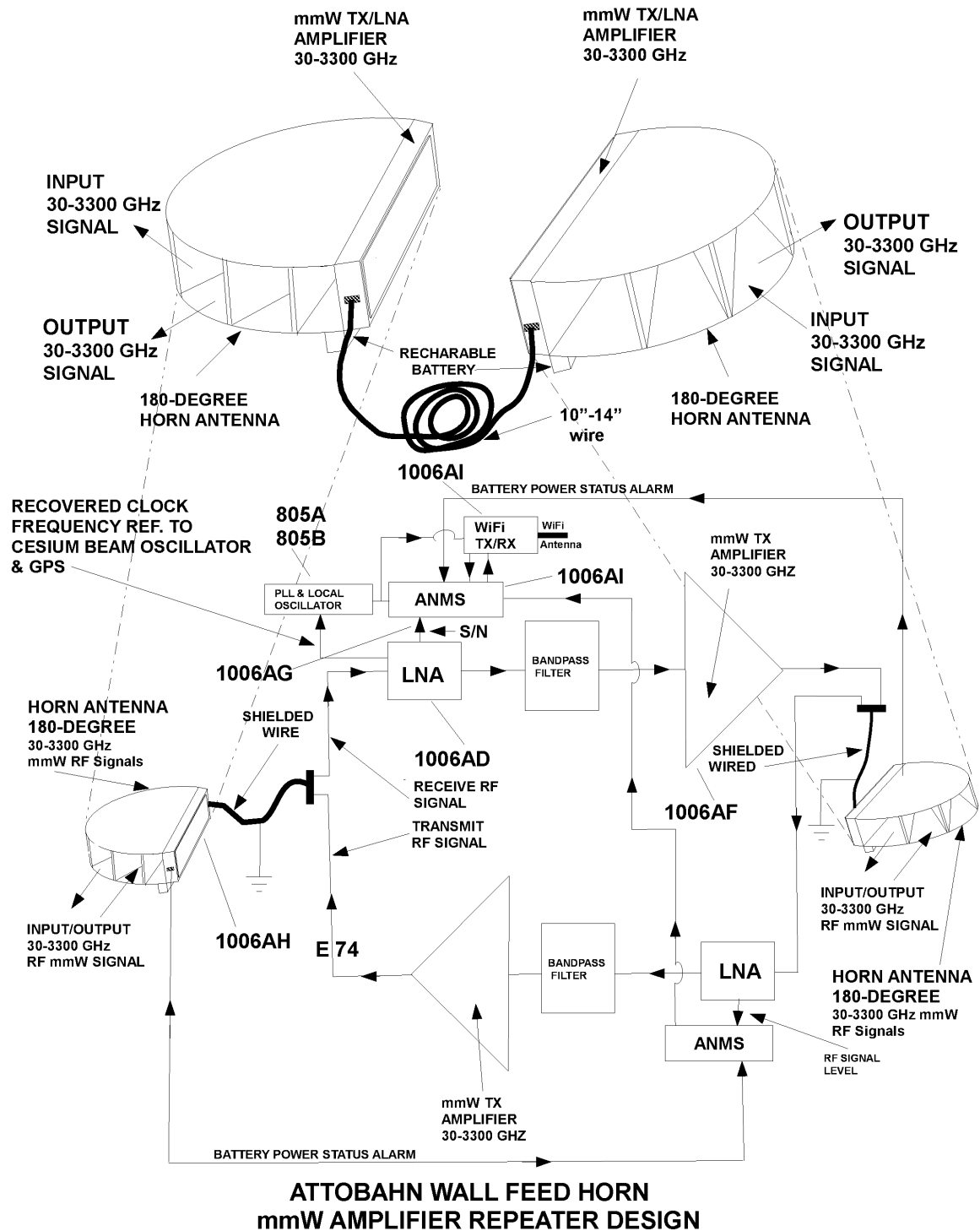
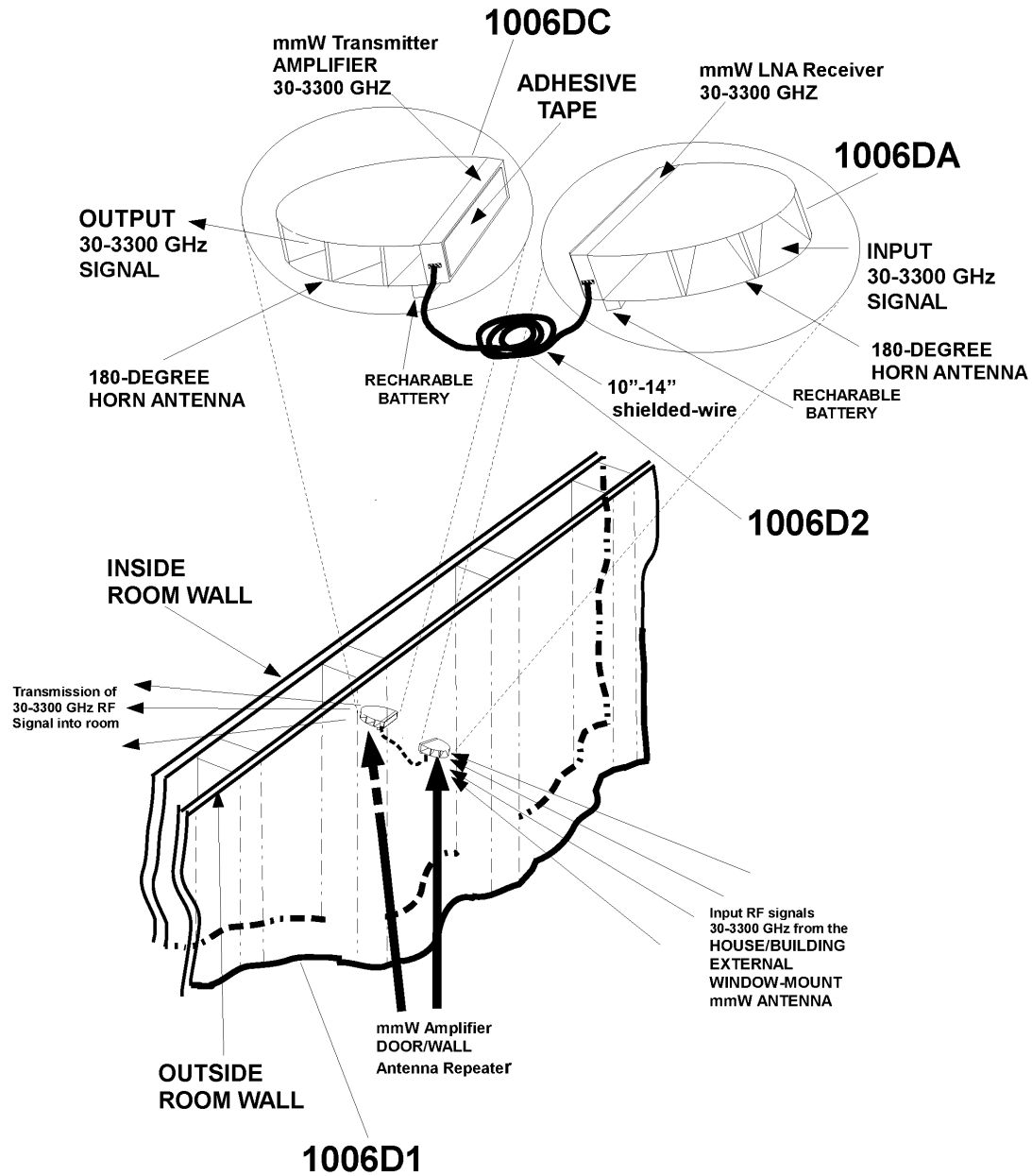


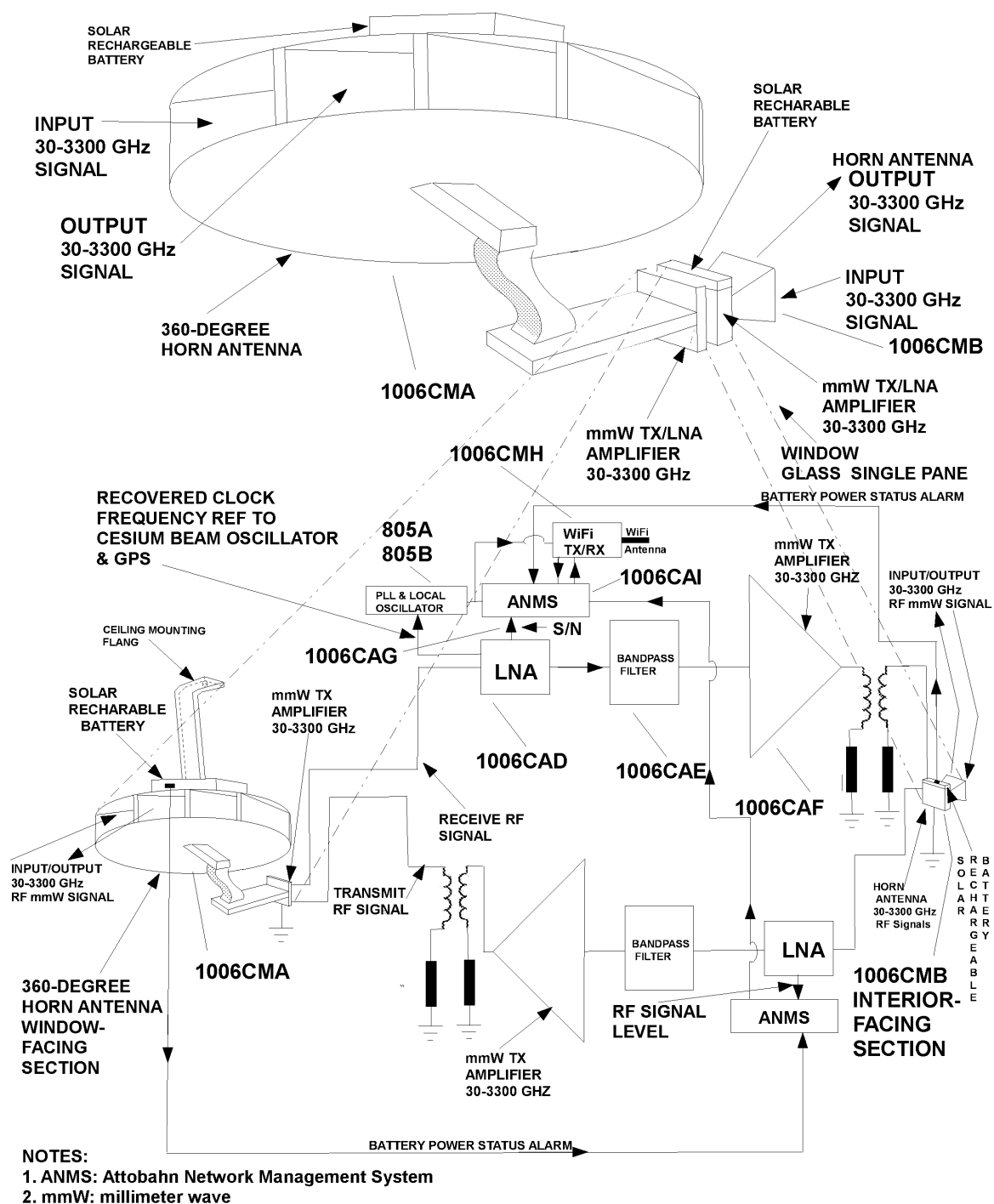
FIGURE 99



ATTOBAHN WALL 180-DEGREE FEED HORN mmW AMPLIFIER REPEATER

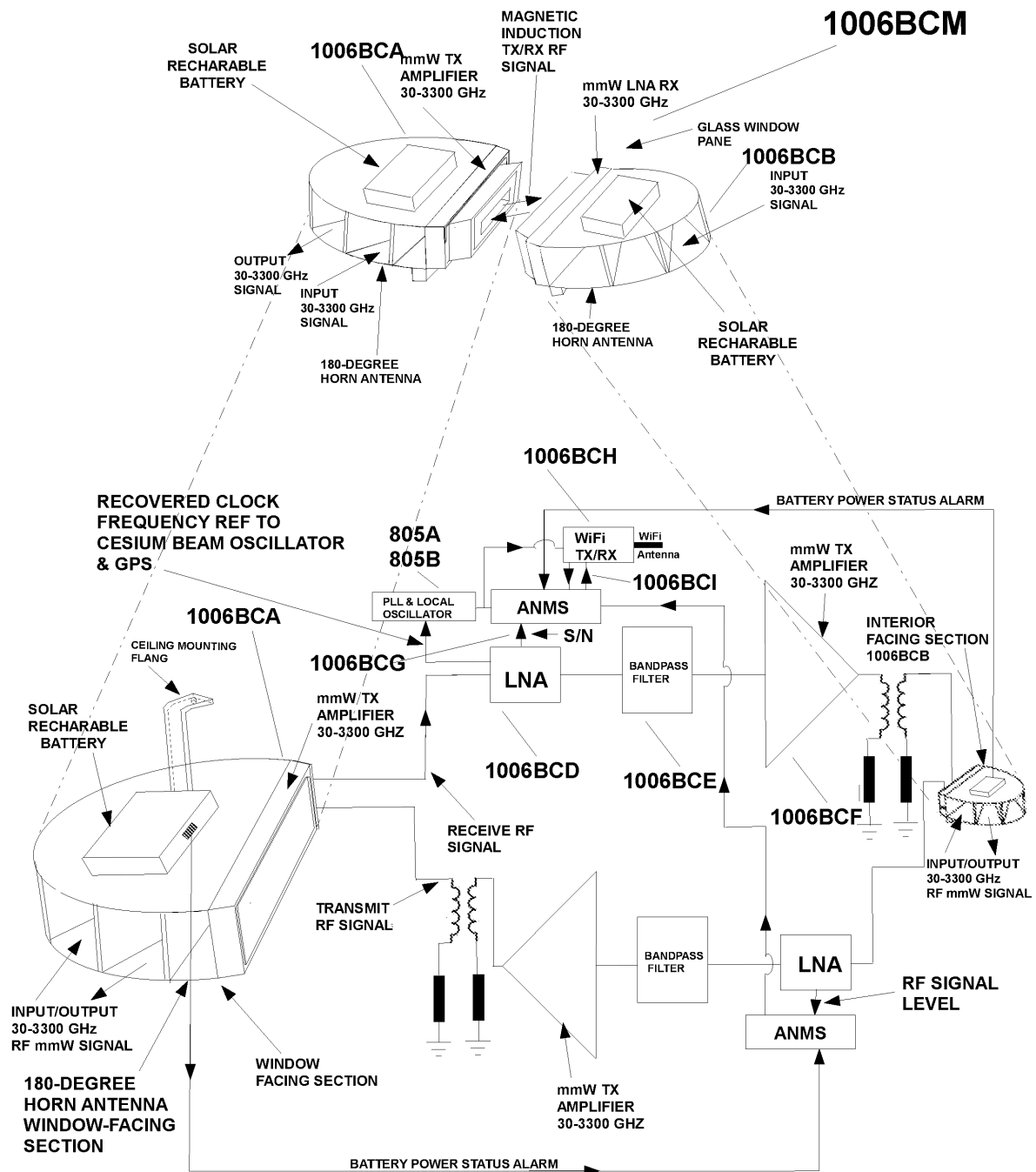
FIGURE 100

FIGURE 101



**ATTOBAHN HOUSE/BUILDING
WINDOW-MOUNT 360-DEGREE HORN ANTENNA
mmW AMPLIFIER REPEATER DESIGN**

FIGURE 102

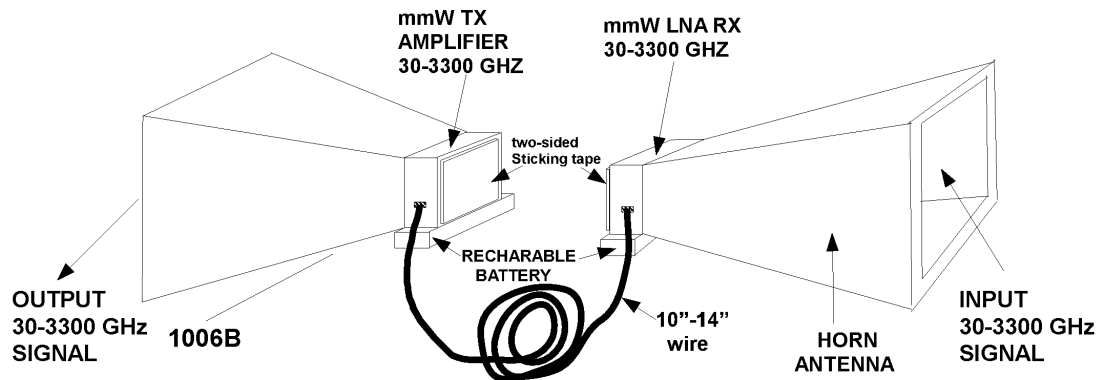


NOTES:

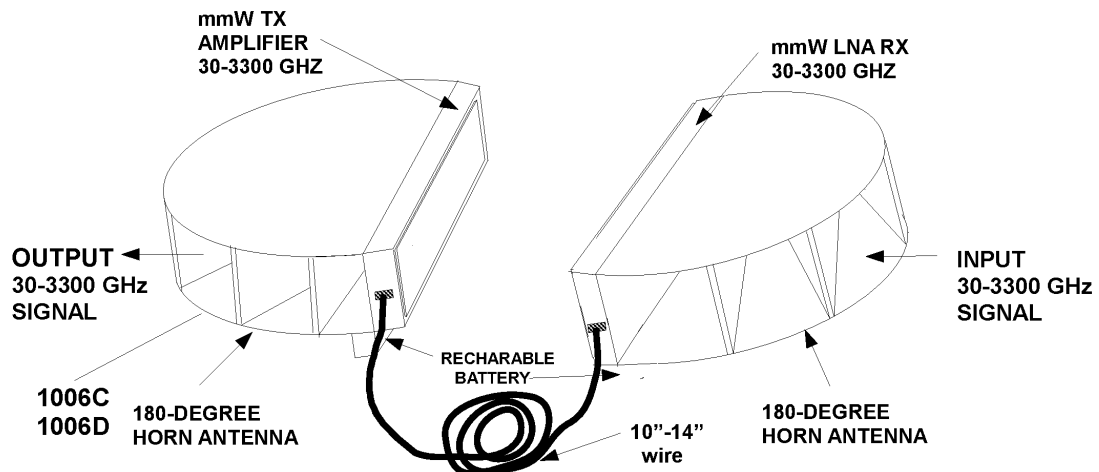
1. ANMS: Attobahn Network Management System
2. mmW: millimeter wave

**wave ATTOBAHN HOUSE/BUILDING
WINDOW-MOUNT 180-DEGREE HORN ANTENNA
mmW AMPLIFIER REPEATER DESIGN**

FIGURE 103



**ATTOBAHN DOOR WAY/WALL
60-DEGREE FEED HORN mmW AMPLIFIER REPEATER**



**ATTOBAHN DOOR WAY/WALL
180-DEGREE FEED HORN mmW AMPLIFIER REPEATER**

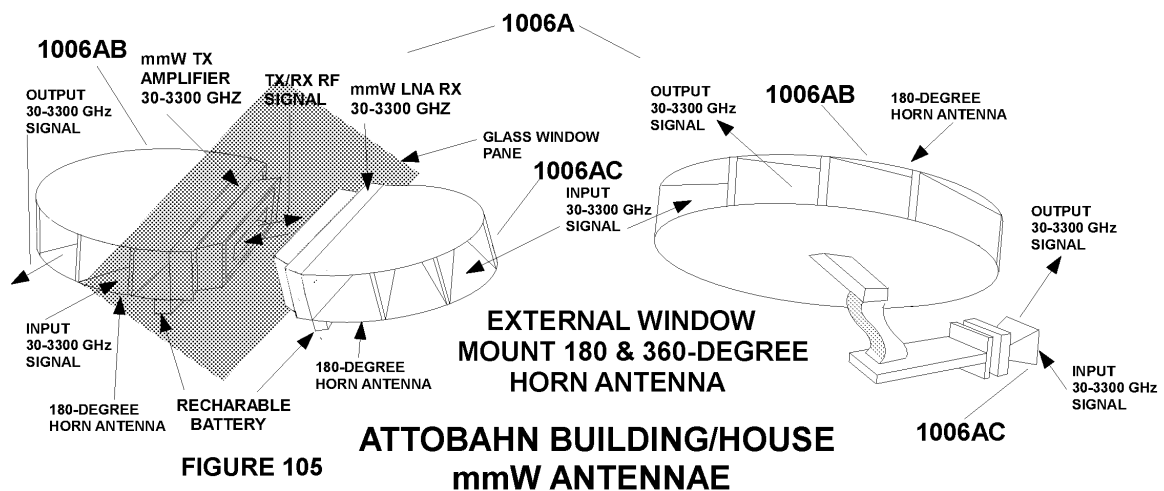
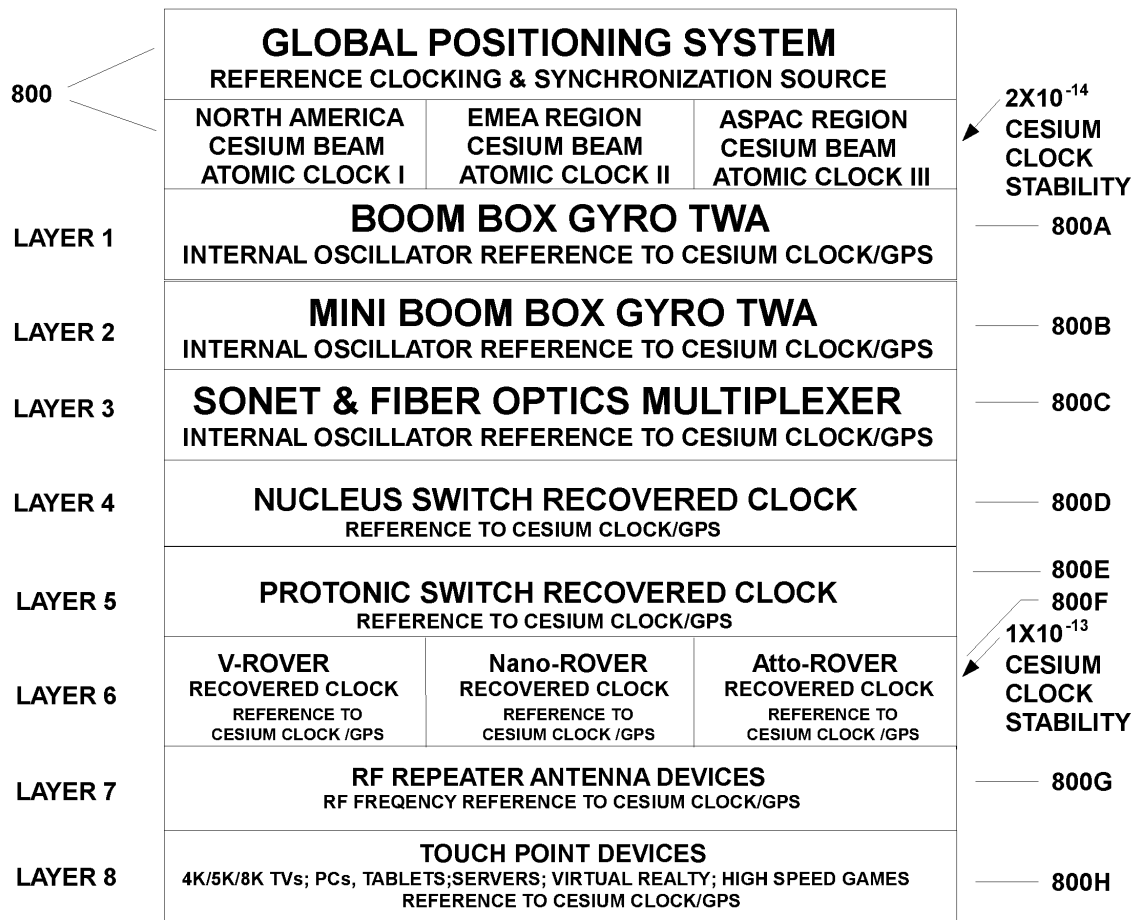


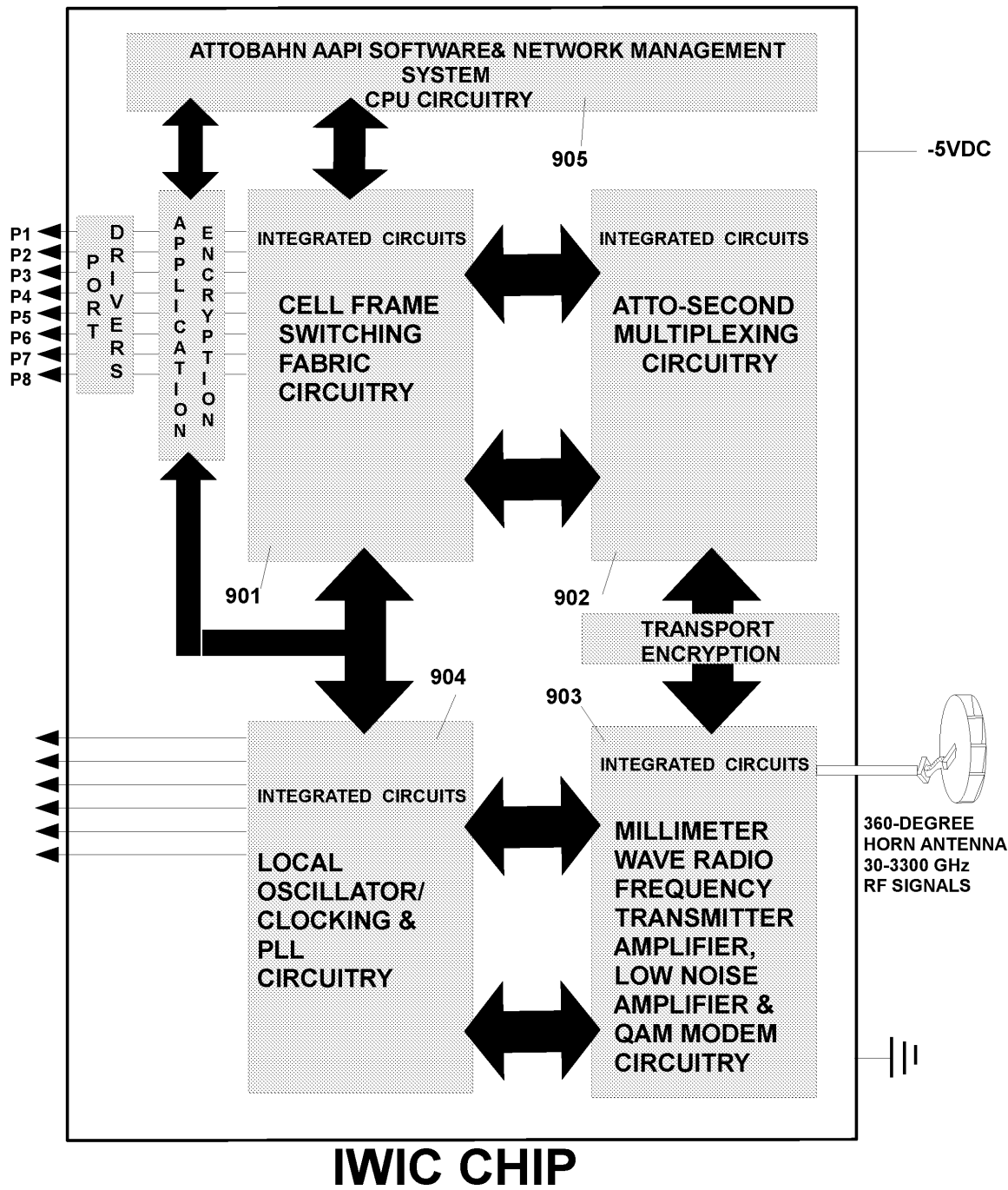
FIGURE 105



**ATTOBAHN
CLOCKING & TIMING STANDARD
SYNCHRONIZATION ARCHITECTURE**

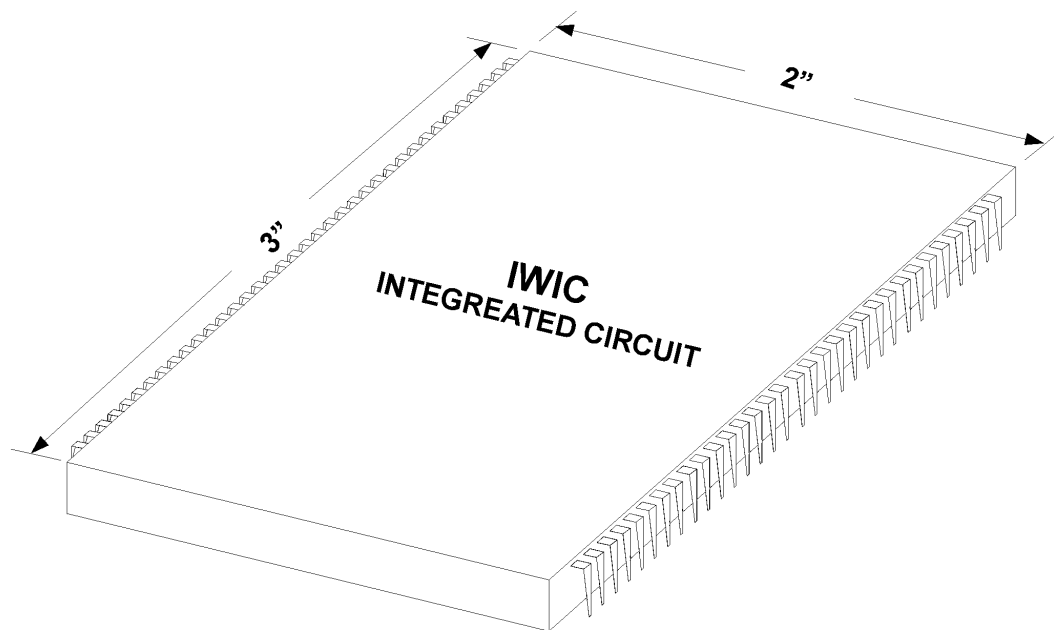
FIGURE 106

FIGURE 107



IWIC CHIP
INSTINCTIVELY WISE INTEGRATED CIRCUIT (IWIC)
ATTOBAHN IWIC CHIP DESIGN

FIGURE 108



ATTOBAHN IWIC CHIP DIMENSIONS

FIGURE 109