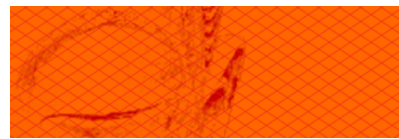


The Chinese People's Liberation Army Signals Intelligence and Cyber Reconnaissance Infrastructure

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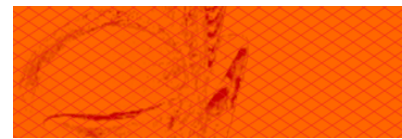


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Introduction

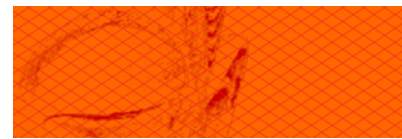
Communications are critical to everyday life. Governments rely on communications to receive information, develop policies, conduct foreign affairs, and manage administrative affairs. Businesses rely on communications for financial transactions, conducting trade, and managing supply chains. All forms of communications, such as home and office phones, cell phones, radios, data links, email, and text messages, rely on electronic transmissions that could be monitored by a third party. In the military, commanders rely on communications to coordinate operations, for logistics support, and to maintain situational awareness. Understanding of communication networks can also enable a perpetrator to disrupt or even destroy a target's command and control centers should the need arise.¹ Moreover, information collected and collated from intercepted diplomatic, military, commercial and financial communications offers potential competitors an advantage on the negotiation table or battlefield.

On July 19, 2010, the People's Liberation Army (PLA) General Staff Department (GSD) unveiled the country's first "Information Support (Assurance) Base" [中國人民解放軍信息保障基地]. Unverified Chinese bulletin board site analyses concluded the base is China's "cyber command," tasked to deal with cyber threats and safeguard China's national security. The organization within GSD to which this base reports remains uncertain, and, if known, would offer clues about its host and about the mission of the base itself. Regardless, the establishment of the base demonstrates the importance the PLA places on information technology and its role in future military development.²

Indeed, the People's Republic of China (PRC) has emerged as a global power in information and communications technology (ICT). Guided by a 15-year (2006-2020) development strategy, a priority of the Chinese Communist Party (CCP) and PRC government is the *informatization* [信息化] of its national civilian and military infrastructure as a means to ensure sustained economic growth, compete globally in the ICT realm, and ensure national security.³ Information dominance, whether for political, economic, or military purposes, requires mastery of both the electromagnetic spectrum and the global cyber sphere. The PLA GSD Third Department [总参三部] and Fourth Department [总参四部] are considered to be the two largest players in China's burgeoning cyber-infrastructure.

This overview offers a preliminary examination of the PLA GSD Third Department, China's premier cryptologic service.⁴ The CCP owes its success during the Chinese Civil War to signals intelligence (SIGINT) derived from interception and decoding of telegrams and radio communications. With modest origins in the 1930s, the Third Department was previously known as the Central Military Commission (CMC) Second Bureau and consisted of three entities responsible for collection, translation, and deciphering/encryption.⁵

Today, the GSD Third Department and its counterparts within the PLA's Military Regions (MRs), Air Force, Navy, and Second Artillery oversee a vast infrastructure for monitoring communications traffic from collection sites inside China, possibly from embassies and other facilities abroad, and perhaps from space-based assets in the future.⁶ Its network of assets are able — assuming sufficient interest and barring sophisticated encryption — to monitor almost any radio communication or phone call within line of sight of Third Department SIGINT



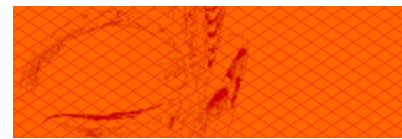
stations. On the other hand, faced with increasing challenges to its communication systems and computer networks, the Third Department also has assumed the responsibility for assuring the security of PLA computer systems in order to prevent foreign adversaries from gaining access to sensitive national security information. These functions are encompassed under the concept of “technical reconnaissance” [技术侦察], which is the foundation of “informatized” warfare.⁷

Like its American counterpart, the National Security Agency (NSA), the GSD Third Department appears to be diversifying its traditional SIGINT mission. Cyber surveillance, or computer network exploitation (CNE) in the U.S. lexicon, represents the cutting edge of SIGINT and the Third Department may serve as the national executive agent for CNE.⁸ The GSD Third Department stands as a reasonable choice to act as the national PRC authority over cyber surveillance because of its traditional core competency in SIGINT, its high performance computing and encryption/decryption technical capabilities, and status as China’s largest employer of well trained linguists.⁹

Computer network operations (CNO) in China often are referred to as “network attack and defense” [网络攻防], based on the premise that “without understanding how to attack, one will not know how to defend.”¹⁰ In the U.S. lexicon, CNO includes computer network attack (CNA), CNE, and computer network defense (CND).¹¹

This study offers a tentative baseline for assessing the GSD Third Department, affiliated Technical Reconnaissance Bureaus (TRBs), and supporting research and development organizations. An examination of this organization, its role and function would provide a mosaic with which to better evaluate China’s signal intelligence and cyber-infrastructure. Public information on the Third Department has been limited, with only tentative links drawn between the Third Department and CNE.¹² That is because any assessment of a country’s SIGINT and CNE infrastructure can be a speculative endeavor. The data points assembled by this monograph points to an expansive yet stovepiped organization responsible for various facets of technical reconnaissance, including collection of wireless line of sight communications, satellite communications, cyber surveillance, network traffic analysis, network security, encryption and decryption, translation, and political, military, and economic analysis.

The study first examines the Third Department command structure and subordinate research institutes, and then offers an overview of the Third Department’s 12 operational bureaus. The discussion then focuses on the technical reconnaissance assets under each of the PLA’s seven MRs, Navy, Air Force, and Second Artillery Force.



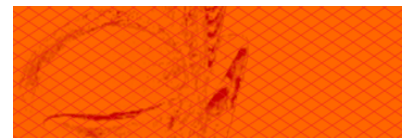
Leadership and Technical Support

Nestled in the quaint Xianghongxi community in the western hills of Beijing’s Haidian District, the GSD Third Department manages a vast communications intercept infrastructure and cyber surveillance system targeting foreign diplomatic communications, military activity, economic entities, public education institutions, and individuals of interest. The Third Department headquarters complex is clustered together with the GSD Operations Department, including its 24 hour watch center in Xishan Mountain, the Academy of Military Science (AMS), and National Defense University (NDU). One unconfirmed report credits the Third Department with as many as 130,000 personnel working in general headquarters staff positions, 12 operational bureaus, and three research institutes.¹³ Third Department bureau, office, and section facilities and sites located throughout China report directly to Beijing, and are not under administrative jurisdiction of MR Commanders or Political Commissars.



Details on the Third Department leadership are scarce. Like other second level GSD departments, the Director and Political Commissar are equivalent to a Group Army Commander. Major General Meng Xuezheng [孟学政] is reported to be serving as the Third Department Director.¹⁴ Meng appears to have replaced Lieutenant General Wu Guohua [吴国华], who directed the Third Department between 2005 and December 2010, when Wu was assigned as Second Artillery Deputy Commander. One Western report claims that Wu Guohua was transferred out due to unauthorized cyber operations. As of late 2010, Major General Liu Xiaobei [刘晓北] served as the Third Department Political Commissar. Liu formerly served as the Third Department Deputy Director.¹⁵ Senior Colonel Zheng Junjie [郑俊杰] serves as a second Deputy Director. Zheng was formerly directed the Third Department’s S&T Equipment Bureau [科技装备局].¹⁶

The Third Department’s central command oversees headquarters, political, and logistics departments, as well as a Science and Technology (S&T) Intelligence Bureau [科技情报

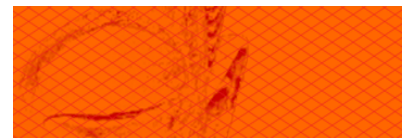


局], and the S&T Equipment Bureau. The S&T Equipment Bureau oversees three research institutes responsible for computing, sensor technology, and cryptography:¹⁷

- **56th Research Institute.** The PLA owns some of the fastest supercomputers in the world.¹⁸ The 56th Research Institute, also known as the Jiangnan Computer Technology Research Institute [江南电脑科技研究所], is the PLA's oldest and largest computing R&D organization. Located in Wuxi in Jiangsu Province, the institute is heavily invested in high performance computing, and supports the Third Department and other national-level computer centers.¹⁹ Supercomputing enables the making and breaking of sophisticated codes and passwords, which appear to be the mission of a counterpart Third Department research institute in Sichuan (see below). The Director of the 56th Institute, Huang Yongqin [黄永勤], is a member of the 863 Program Expert Working Group on Computing and Software.²⁰
- **57th Research Institute.** The 57th Research Institute appears to be responsible for the development of communications intercept and signal processing systems.²¹ Formerly collocated with the First Bureau complex in the Dujiangyan area, the institute is based in Chengdu and also known as the Southwest Institute of Electronics and Telecommunications Technology [西南电子电信技术研究所].²² Among the institute's key focus areas is satellite communications technology, and it has been noted working with the China Academy of Space Technology on satellite R&D.²³ The 57th Research Institute may have a subordinate office in Guangdong, and operates a site in Chengdu suburb of Shuangliu.²⁴
- **58th Research Institute.** The 58th Research Institute appears to be focused on cryptology and information security technology.²⁵ Based in Mianyang (Sichuan Province) and also known as the Southwest Automation Research Institute (SWAI) [西南自动化研究所], the 58th Research Institute Director is Yue Zengjin [岳曾敬].²⁶ The 58th Institute has a cooperative relationship with Nanjing University of Science and Technology [南京理工大学].²⁷ Other leading authorities assigned to or affiliated with the 56th Research Institute include Wei Zhengyao [魏正耀], Huang Minqiang [黄民强], and Nan Xianghao [南相浩].²⁸

The GSD Third Department is responsible for PLA CND and plays a central role within China's national-level information security community. According to one U.S. study, Chinese analysts believe that the United States is already carrying out extensive CNE activities against Chinese servers. Therefore, from the Chinese perspective, defending computer networks must be the highest priority in peacetime.²⁹ CND-related organizations managed by or affiliated with the Third Department include:

- The PLA Communications Security Bureau [通信机要局], China North Computation Center [北方计算中心], and the Third Department Computing Center [总参三部计算中心] in Beijing.³⁰
- Established in 2005, the National Research Center for Information Security Technology [国家信息技术安全研究中心] serves as the national authority on risk assessment for China's network security.³¹
- The PLA Information Security Evaluation and Certification Center [解放军信息安全测评认证中心].³²
- Information Security Research Institute [信息安全研究所] and National Information Center [国家信息中心], which maintains a close affiliation with the Third Department S&T Equipment Bureau.³³



- The National Information Security Engineering Technology Center [国家信息安全工程技术研究中心] in Shanghai, managed alongside with the State Council's Ministry of Science and Technology, National Crypto Management Center, State Secrecy Bureau, and Ministry of State Security.³⁴

Training and education for Third Department personnel are generally conducted at one of two institutions. Most linguists assigned to Third Department bureaus and TRBs receive language training at the PLA University of Foreign Languages [解放军洛阳外语学院] in Luoyang, the rough counterpart of the Defense Language Institute (DLI) in Monterey, California.³⁵ Upon graduation, they are assigned to a bureau for mission specific technical training. Technical training for electrical engineers, communications specialists, computer scientists, and network security personnel is conducted at the PLA Information Engineering University [解放军信息工程大学] in Zhengzhou, Henan Province.³⁶ Personnel for regular duties, such as drivers, administration, facility security, and so forth, are recruited in the normal annual conscription. Personnel security requirements are likely more stringent than in other parts of the PLA, which gives the political commissar system increased stature.

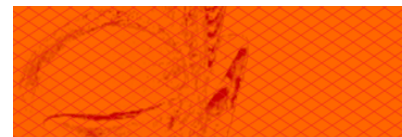
Prominent PLA commentators have advocated greater integration of psychological operations and CNO, including organized efforts to monitor the internet and correct false information.³⁷ Cyber network attack/defense has been linked with PLA psychological warfare training units with a primary function being to identify and counter perception management and ideological campaigns launched against China via computer networks.³⁸ Key General Political Department (GPD) psychological warfare units with possible CNO missions include the 61023 Unit in Beijing and the 61716 Unit in Fujian.³⁹

Operational Third Department Bureaus

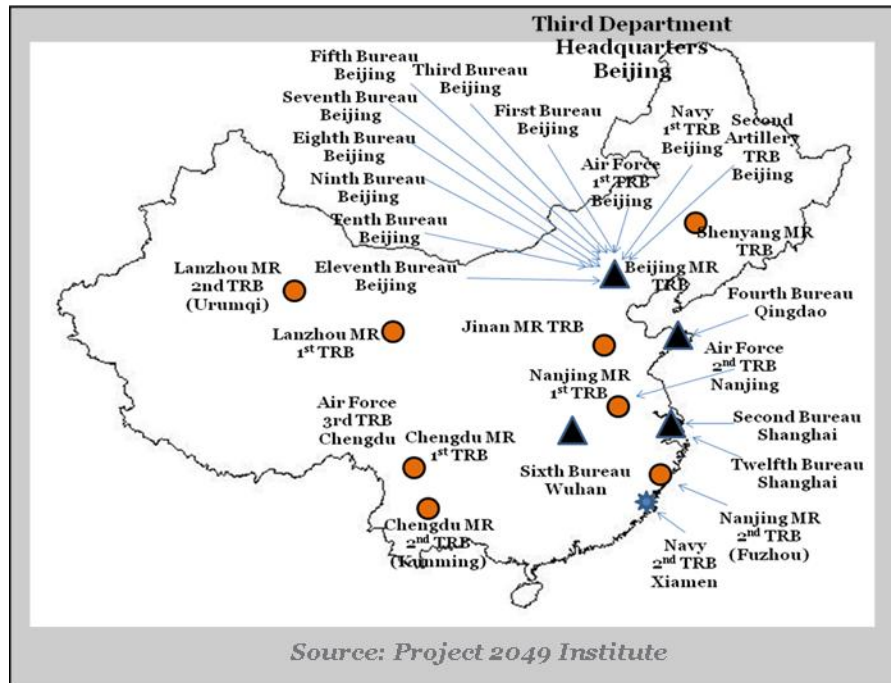
The GSD Third Department has direct authority over 12 operational bureaus. Eight of the 12 bureau headquarters are clustered in Beijing. Two others are based in Shanghai, one in Qingdao, and one in Wuhan.⁴⁰ The Third Department's 12 operational bureaus mostly likely report to the Headquarters Department. The operational bureaus are separate and distinct from TRBs under the PLA's seven MRs, and the three Services: Air Force, Navy, and Second Artillery. TRB directors likely report to MR and Service Chiefs of Staff. However, the Third Department likely provides TRBs with policy guidance and tasking for collection and analysis.

The degree of control that the Third Department operational bureaus and TRBs exercise over militia and reserve assets under military districts is unknown. The militia makes up the third component of China's armed forces, with the PLA and People's Armed Police being the other two.⁴¹ One 2004 Sichuan Military District assessment calls for militia and reserves to play a more prominent role in network defense and attack, technical reconnaissance, and psychological operations.⁴² The Hubei Military District, for example, is partnered with Wuhan University's Network Attack and Defense Center [武汉大学网络攻防中心].⁴³

Bureau-level directors and political commissars have grades equivalent to that of an army Division commander, and oversee between six and 14 subordinate sites or offices [*chu*; 处].

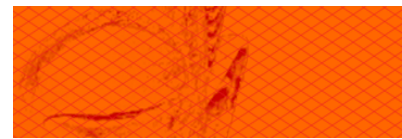


Office directors have a grade equivalent to a Deputy Division or Regiment commander.⁴⁴ Sites/offices under bureaus are further divided into sections [*ke*; 科], although some sections report directly to bureau headquarters. In addition to a liaison office in Shanghai, the Third Department manages a Hong Kong and Macao Liaison Bureau [总参三部港澳联络局] in Shenzhen.⁴⁵



Third Department bureaus likely have a specific mission, such as radio or satellite communications intercept, cryptology, translation, information assurance, and intelligence analysis. In addition to monitoring internal PLA communications traffic for security violations, Third Department offices and MR and MR/Service TRB intercept stations located around China’s periphery can monitor radio traffic and pinpoint the location of emitters through radio direction finding (e.g. homing). Specific Third Department bureaus with responsibilities for CNE remain opaque. The Third Department Seventh Bureau has been associated with technical aspects of cyber operations (see below). Regional bureaus, such as the Shanghai’s Second Bureau or Qingdao’s Fourth Bureau, may be responsible for translation of information attained from communications intercepts and cyber surveillance, and production of intelligence reports based on translated materials. The 12th Bureau, responsible for space-related technical reconnaissance, appears to have expanded in scope.

First Bureau (61786 Unit). The First Bureau headquarters is collocated with the Third Department command complex in northwestern Beijing. Overseeing at least 12 offices operating in various parts of China, the bureau appears to have a functional rather than regional mission. Formerly centered in the Chengdu suburb of Dujiangyan, the bureau’s mission appears to include decryption, encryption, and other information security tasks.⁴⁶ The First Bureau, for example, is the only military representative on the national 863 Program Information Assurance Expert Working Group.⁴⁷ At least one First Bureau element, possibly the Seventh Office, is based south of Dujiangyan.⁴⁸ Although not in a formal subordinate relationship, the First Bureau likely maintains a close, mutually supportive relationship with related organizations in Chengdu, such as Sichuan University’s Information Security and Network Attack and Defense



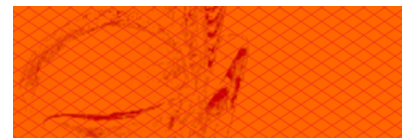
Laboratory [四川大学信息安全及网络攻防研究室].⁴⁹ Chengdu is also home to the GSD Third Department 57th Research Institute and the Chengdu MR First TRB (see below).

Second Bureau (61398 Unit). The Second Bureau appears to function as the Third Department's premier entity targeting the United States and Canada, most likely focusing on political, economic, and military-related intelligence.⁵⁰ Subordinate offices are concentrated in Shanghai, although one may be in the Kunming vicinity. More specifically, the Bureau's Second Office is situated in Dachangzhen, and Third Office is based in Shanghai's Changning District.⁵¹ The Fourth Office has a presence in the northern Shanghai suburb of Gucunzhen as well as Chongming Island.⁵² It appears to have a mobility mission.⁵³ The Seventh Office is in Gaohangzhen. Yet another is Luodianzhen. Another office is in Changning District on Yan'an Zhong Road.⁵⁴

Third Bureau (61785 Unit). Headquartered in the southern Beijing suburb of Daxing, the Third Bureau appears to have a functional mission.⁵⁵ Given the dispersed nature of subordinate offices, the mission of the Third Bureau may be front end collection of line of sight radio communications, including border control networks, as well as direction finding, and emission control and security. The bureau has at least 13 subordinate units.⁵⁶ Third Bureau offices are based in Harbin, Dalian, Beijing, Hangzhou, Ningdu County (Jiangxi), Xiamen, Shenzhen, Kunming, Xian, and Ürümqi.⁵⁷ As of late 2010, Senior Colonel Wang Daowu [王道武] commanded the bureau and Li Shoukai [李守凯] served as Political Commissar.⁵⁸ The Third Bureau's Kunming office has been involved in counter-drug operations.⁵⁹ Since 1992, the Third Bureau's Fifth Office in Beijing's southern Daxing District has been responsible for PLA emission security (e.g. TEMPEST).⁶⁰ The Shenzhen office appears to have a unique mission, perhaps responsible for coverage of Hong Kong/Macao wireless networks.⁶¹

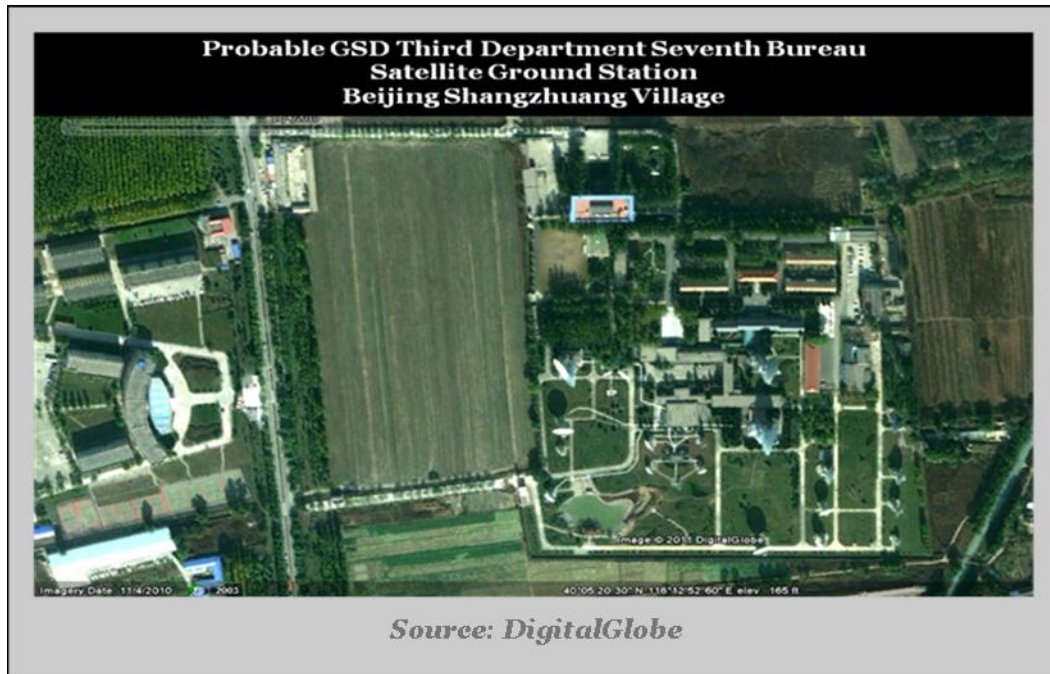
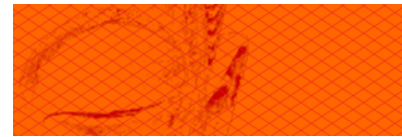
Fourth Bureau (61419 Unit). Headquartered in Qingdao, the Fourth Bureau appears to be focused on Japan and Korea.⁶² Many of the Fourth Bureau offices, including the First, appear to be located in the Qingdao area. The Second Office incorporates Korean linguists.⁶³ The Fourth Bureau's Seventh Office is located in Hangzhou.⁶⁴ Another office is located in Jimo City Wenlongzhen [即墨市温泉镇].⁶⁵ Other subordinate offices appear to be located in the Qingdao area, Dalian, Beijing, and Shanghai. The bureau was formerly based in the Shanxi provincial city of Xinzhou, specifically Huanglong Wanggou village. While its headquarters moved to Qingdao, the Fourth Bureau may still maintain its training base in Xinzhou.⁶⁶

Fifth Bureau (61565 Unit). Headquartered in Beijing's Daxing District Huangcun Village, the Fifth Bureau appears to have a Russia-related mission. A substantial number of parabolic dish antennas--oriented toward a diverse range of azimuths--can be seen at the eastern end of the compound on Google Earth. Fifth Bureau offices are located in Heilongjiang's Suihua City, Jiuquan and Xinjiang.⁶⁷



Sixth Bureau (61726 Unit). The Sixth Bureau is headquartered in Wuhan's Wuchang District.⁶⁸ Zhang Yunju [张运炬] serves as the Sixth Bureau Political Commissar. Bureau headquarters were centered in the area of Jingmen, Hubei Province until moving to Wuhan more than a decade ago.⁶⁹ Sixth Bureau offices stretch across central China from the eastern coastal city of Xiamen to the Yunnan city of Kunming, indicating a Taiwan and South Asia mission. More specifically, offices are located in Xiamen, Nanchang (Seventh Office), Xiangfan; Ningdu County's Xiaobu Village [小布镇], Wuhan, Jingmen, and Kunming's Panlong District (Fourth Office).⁷⁰ The Nanchang office may have a training mission.⁷¹

Seventh Bureau (61580 Unit). Headquartered in Shucun area of Beijing's northwest Haidian District, the Seventh Bureau's mission is unclear. Selected bureau engineers specialize in computer network defense and attack, and have conducted joint studies with the PLA Information Engineering Academy Computer Network Attack and Defense section.⁷² Divided into at least 10 offices, the Seventh Bureau employs English translators.⁷³ One Seventh Bureau study examined support vector machine (SVM) applications for detecting intrusion patterns.⁷⁴ Two senior engineers outlined U.S. network centric warfare, while another published an assessment of the future of the internet and dense wavelength division multiplexing (DWDM).⁷⁵ Another study focused on psychological and technical aspects of reading and interpreting written foreign language.⁷⁶ Another addressed legal aspects of the global economy.⁷⁷ The bureau manages a satellite ground station in the northwest Beijing suburb of Shangzhuang and oversees at least one element in Ürümqi area.⁷⁸

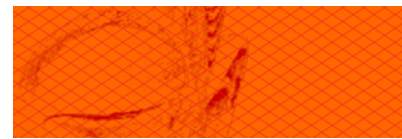


Eighth Bureau (61046 Unit). Nestled in Hanjiachuan [韩家川], the Eighth Bureau is adjacent to Third Department headquarters in Beijing’s northwest suburbs.⁷⁹ It also appears to have a presence in Wenquanzhen [温泉镇] in far northwestern Beijing.⁸⁰ Based on language capabilities of members assigned, the Eighth Bureau appears to focus on Western and Eastern Europe and perhaps rest of world (e.g. Middle East, Africa, and Latin America).⁸¹ Among its 10 offices, at least one major office is located in the Hainan Island city of Haikou.⁸² The Seventh Office is based in Hubei Province’s Xiangfan City.⁸³ The Eighth Bureau satellite receiving station is in northwestern Beijing suburb of Xibeiwang.⁸⁴

Ninth Bureau. The Ninth Bureau appears to serve as the GSD Third Department’s primary strategic intelligence analysis and/or data base management entity.⁸⁵ Among all the bureaus, the Ninth is the most opaque. As of Spring 2010, Zhang Qinchen [张钦贞] served as Ninth Bureau Director.⁸⁶ The Seventh Office appears to be involved in audio-visual technology [电子声像], and large scale data base management.⁸⁷ Former Ninth Bureau Director Kuang Tao [邝涛] has been a prominent international relations commentator since retirement in the 2004 timeframe.⁸⁸

10th Bureau (61886 Unit). The 10th Bureau, sometimes referred to as the “7911 Unit,” is headquartered in Beijing’s northwest suburb of Shangdi on Xinxi Road.⁸⁹ The 10th Bureau appears to have a Central Asia or Russia-related mission, perhaps focused specifically on telemetry and missile tracking and/or nuclear testing.⁹⁰ The 10th Bureau First Office is said to be collocated with the 10th Bureau headquarters. The 10th Bureau’s Second Office (referred to as a 7911 Unit) is located in Xinjiang’s Yining City, near the Kazakhstan border.⁹¹ The Third Office is located in Kashgar’s Baren Village. Another 10th Bureau Office is in Ürümqi.⁹²

11th Bureau (61672 Unit). The 11th Bureau, also known as the “2020 Unit,” is headquartered in the Malianwa community, just east of the Third Department headquarters compound.⁹³ The bureau headquarters was previously based in Jiamusi City in Heilongjiang Province until its move to Beijing in 2011.⁹⁴ The distribution of offices throughout northern China and assignment



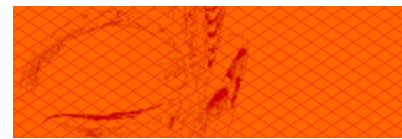
of Russian linguists indicate a Russia-related mission.⁹⁵ With Russian linguists assigned to both entities, differences between the 11th and Fifth Bureau missions differ is unknown. The unit one time had a significant presence in the Hanzhong area, specifically in Chenggu County's Xijiamiao Village [许家庙镇]. A "2020 Unit" has had a presence in the far northwestern Heilongjiang county of Jiage Daqi since 2005.⁹⁶ Another office may be located in Ürümqi's Anning District.⁹⁷



12th Bureau (61486 Unit). Headquartered in Shanghai's Zhabei District, the 12th Bureau appears to have a functional mission involving satellites, likely inclusive of intercept of satellite communications and possibly space-based SIGINT collection.⁹⁸ The Third Department's 57th Research Institute has been noted working in conjunction with the CAST 50 Third Research Institute on a sub-system on board the *Fengyun-3* (FY-3) weather satellite.⁹⁹ Subordinate offices and sites in the Shanghai area, and in southeast, northeast, southwest, and northwestern China. The 12th Bureau's Third Office is located in Shanghai's Baoshan District and has sponsored research into extracting synthetic aperture radar (SAR) satellite images.¹⁰⁰ The bureau's southeast station began operations in the 2008-2009 timeframe and is located in Fuzhou's Gangtouzhen.¹⁰¹ Other 12th Bureau offices are situated in Taicang, just outside of Shanghai, and Hangzhou's Daxiaogu Village.¹⁰² Its southwest site is situated outside Kunming in Songming County's Yuejia Village, which appears to have been established within the last 10 years.¹⁰³ The 12th Bureau's northeast station is said to be located in Changchun's Xinglongshan Village. A southern site is situated within Guangzhou Huadu District. Northwestern sites are located in Gansu and Xinjiang.¹⁰⁴

Military Region Technical Reconnaissance Bureaus

The Third Department's 12 operational bureaus are separate and distinct from TRBs under the seven MR headquarters in Beijing, Chengdu, Guangzhou, Jinan, Lanzhou, Nanjing, and



Shenyang. Each Military Region Headquarters Department Chief of Staff exercises authority over at least one TRB.¹⁰⁵ However, senior Third Department authorities in Beijing likely issue policy guidance and general tasking for TRB collection, analysis, and reporting.¹⁰⁶ TRB missions may parallel those of the Third Department, and include communications intelligence, direction finding, traffic analysis, translation, cryptology, computer network defense, and computer network exploitation. However, their primary role is to support the MR command. Military Region TRBs also likely support border security forces.¹⁰⁷

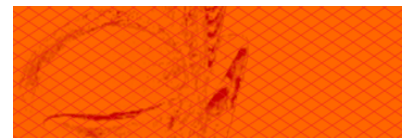
Beijing Military Region. The Beijing MR TRB (66407 Unit) is headquartered in Beijing's Xiangshan Mountain area.¹⁰⁸ Assigned Russian linguists, subordinate offices appear to be based along the border in Inner Mongolia. For example, one key office may be based in the Hohhot township of Qiaobaozhen [巧报镇], with another situated in the Hailar [海拉尔] area.¹⁰⁹ The Eighth Office appears to be located in Neimeng Linhe [内蒙临河].¹¹⁰

Chengdu Military Region. The Chengdu MR has two TRBs. The Chengdu MR First TRB (78006 Unit) is headquartered in Chengdu.¹¹¹ A requirement for English linguists has been noted.¹¹² As of mid-2010, Senior Colonel Guan Yan [管严] served as the Chengdu MR First TRB Political Commissar.¹¹³ Western reporting has noted Chengdu MR First TRB as possibly being involved in CNE operations.¹¹⁴ The Chengdu MR Second TRB, assigned a cover designator of the 78020 Unit, is based in northern suburbs of Kunming with subordinate offices in Baoshan, Malipo, and other border cities.¹¹⁵

Guangzhou Military Region (75770 Unit). The Guangzhou MR TRB is headquartered in the Guangzhou suburbs and oversees at least eight offices operating in southern China.¹¹⁶ As of Summer 2010, the Political Commissar is Hu Fuhui [胡富辉].¹¹⁷ Hu was subsequently transferred to the Guangzhou MR TRB, where he headed the Second Office. One office is in Guangzhou's Huadu District, and another in the Guangzhou's Baiyun District.¹¹⁸ Other offices are based in Shantou's Nan'ao County and just west of Sanya on Hainan Island.¹¹⁹ A senior engineer from the Hainan office was granted awards for network-related work, including possible surveillance of voice over internet protocol (VOIP).¹²⁰ The Guangzhou MR TRB Eighth Bureau is in Shenzhen.¹²¹ The Guangzhou MR TRB Ninth Office, located in Guangzhou City, has been noted doing studies on internet viruses.¹²²

Jinan Military Region. The Jinan MR TRB (72959 Unit) is located in Jinan City, and is said to oversee 670 technical specialists.¹²³ It includes an element dedicated toward microwave relay intercept.¹²⁴ The bureau headquarters compound may be located in Jinan City at the far eastern end of Sushan Road.¹²⁵ Overseeing at least eight offices manned by Korean, Japanese, English, and other language specialists, the Political Commissar is Fu Fengshou [傅增寿].¹²⁶ The Fifth Office is collated with the bureau headquarters. The Jinan MR TRB's Sixth Office appears to be located in Weihai.¹²⁷

Lanzhou Military Region. The Lanzhou MR oversees two TRBs. The Lanzhou MR First TRB (68002 Unit) is centered in the southern Lanzhou City's Qilihe District.¹²⁸ Dai Shemin [戴社民] serves as the bureau's political commissar.¹²⁹ Unlike other MRs, no subordinate offices under the Lanzhou MR First TRB could be identified. However, the Lanzhou MR's Second TRB (69010 Unit) appears to be a play an important and unique role in China's SIGINT community. The Lanzhou MR Second TRB is headquartered in Ürümqi's Shuimogou [水磨沟] village and has its roots in a section of the Third Department's Second Bureau based in Xinjiang. It merged with the Xinjiang MR, becoming the Lanzhou MR's second TRB in the mid-1980s.¹³⁰ It has subordinate offices located in Kashi's Shule County, Altay, and Yining that likely monitors



military activities along China's borders with India, Pakistani, Afghanistan, Tajikistan, Kyrgyzstan, Kazakhstan, Russia, and Mongolia.¹³¹

Nanjing Military Region. The Nanjing MR Headquarters Department, led by former GSD Second Department Director Major General Yang Hui [杨晖], oversees two TRBs that are likely focused on Taiwan military and other communications and computer networks, as well as U.S. activity in the Western Pacific area of operations. The bureaus also may assist in maintaining the integrity of Nanjing MR networks.

The Nanjing MR First TRB (73610 Unit) is located in Nanjing City.¹³² At least one office may be located in Nanjing's Zhuzhuang suburbs. The Third Office is situated in Shanghai's Songjiang District's Dongshi Village. However, it also appears to have a presence on Zhoushan Island. The Fifth or Sixth Office is in Shanghai's Minhang District. The Seventh Office may be in Nanjing's Zhuzhuang area. The Eighth Office may be in Hangzhou's Jianggan District, or perhaps in Shangyu City Lihazhen.¹³³

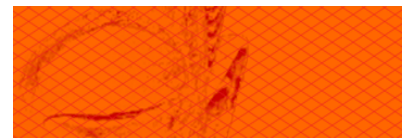
The Nanjing MR's Second TRB (73630 Unit) was founded upon the Fuzhou MR's Third Bureau, and appears to be headquartered in an underground bunker complex in Fuzhou City's Zhenbancun [阵坂村].¹³⁴ The Nanjing MR Second TRB appears to focus almost exclusively on Taiwan. The First Office, Second Office, Fourth Office, and Sixth Office are located in Fuzhou's Hongshan village, nestled in a bunker complex off Yuancuo Road area on Dafu Mountain. The Third Office is near the bureau headquarters on Feifeng Mountain in the Fuzhou community of Jianxin Village.¹³⁵ Among a range of responsibilities, the Fifth Office appears to conduct political, military, and economic translation work, including from English to Chinese. The Seventh Office may be responsible for front end collection and is situated on Gushan [鼓山] in Fuzhou's eastern Jin'an District.¹³⁶ The Eighth Office, most likely also dedicated to front end signals collection, is situated along the Chinese mainland coast opposite Taipei on Dongjing Mountain in Donghazhen [东瀚镇].¹³⁷

Shenyang Military Region (65016 Unit). The Shenyang MR TRB headquarters is situated in Shenyang's Dongling District. Focused on Russian, Korean, and Japanese targets, subordinate offices are located in Harbin, Dalian, Jiamusi, Heilongjiang's Dongning County, Qiqihar's Fuyou County, Inner Mongolia's Hulunber, and Hunchun City.¹³⁸

Service Technical Reconnaissance Bureaus

Service TRBs appear to specialize in monitoring communications networks related to their specific areas of interest. Although unconfirmed, it appears that the PLA Air Force (PLAAF) and Navy (PLAN) technical reconnaissance units had formerly been under the MRs' Air Force headquarters and PLAN North, East, and South Sea Fleets. Over the last several years, technical reconnaissance assets may have been consolidated under Air Force and Navy Headquarters Departments in Beijing in order to better leverage resources under centralized control.

Air Force. The PLAAF Headquarters Department oversees three TRBs responsible for monitoring of neighboring air forces and air activity around China's periphery. PLAAF TRBs



likely conduct airborne SIGINT missions as well using military or civilian aircraft as platforms.. As an aside, PLAAF representatives have implied the adoption of independent computer network operations as an Air Force mission.¹³⁹

The PLAAF First TRB, assigned a cover designator of the 95830 Unit, is headquartered in Beijing's Huangsi District. The PLAAF First TRB manages an underground network control center in the Western Hills. Among other functions, the First TRB may maintain a network of direction finding sites in northeastern and eastern China that support the national air defense mission. One subordinate PLAAF First TRB office is collocated with the bureau headquarters, has published studies on computer network security, and oversees elements in Xiaogan and Shenyang.¹⁴⁰ Although unconfirmed, the PLAAF First TRB could support special airborne SIGINT collection missions launched from Nanyuan Airbase in Beijing's southern suburbs.

The PLAAF Second TRB is most likely headquartered in Nanjing and oversees a network of collection and direction finding sites along the coast in Fujian and Guangdong.¹⁴¹ A primary mission presumably is monitoring of Republic of China Air Force (ROCAF) communications networks on Taiwan, including air tower, ground control intercept, and air to air communications. Taiwan's introduction of advanced tactical data links under the *Posheng* program likely complicates the PLAAF technical reconnaissance mission. One key PLAAF Second TRB facility is located in Fuqing City's Donghanzhen [东瀚镇], specifically on Dongjing Mountain, and possibly shares facilities with a Nanjing MR Second TRB office.¹⁴² Other PLAAF Second TRB offices/sites may be based in Shanghai, Fuzhou, Xiamen, and Guangzhou's Xintang District. The PLAAF Second TRB is alleged to train new personnel at a site that is collocated with the Third Department Seventh Bureau's satellite ground station in northwest Beijing.¹⁴³

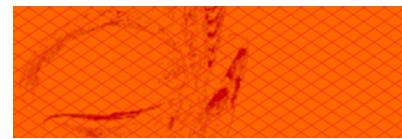
The PLAAF Third TRB is headquartered in Chengdu's Fenghuang Mountain.¹⁴⁴ Established as recently as July 2004, subordinate PLAAF Third TRB sites most likely monitor air activity and air defense communication networks along China's southwestern, western, and northwestern borders. The Third TRB may have as many as 13 subordinate regimental-level sites. One is a TRB office in the Hetian area, and indications exist of other elements near Ürümqi and in Ningxia.¹⁴⁵

Navy. The Navy oversees two TRBs bureaus that appear to be organized geographically. Indications exist of a reorganization that removed the Navy TRBs from the fleets and subordinated to Navy Headquarters Department. The Navy's First TRB, probably assigned a cover designator of the 91746 Unit, is headquartered in Beijing. It appears to oversee at least 10 subordinate offices in northern China, including sites in Hunchun, Qingdao, and Yantai. The Navy's Second TRB is headquartered in Xiamen's Si'men District. Subordinate offices are located in Ningbo, Wenzhou, Xiamen, Shantou, and Haikou.¹⁴⁶

Second Artillery. Second Artillery Headquarters Department TRB (96669 Unit) appears to be based in Beijing's Huilongguan suburb. Locations of subordinate elements have yet to be identified. The bureau's political department director formerly served as Political Commissar of the Second Artillery's communications command.¹⁴⁷

The Third Department's Active Counterpart: The GSD Fourth Department

A discussion China's cyber infrastructure would be incomplete without addressing the Third Department's active, electronic warfare counterpart. Use of the doctrinal concept of "integrated network and electronic warfare" [网电一体战] implies an attempt to link computer network



attack and jamming, presumably under the purview of the GSD Fourth Department. Established in 1990, the Fourth Department has overall responsibility for electronic warfare (EW), including ELINT and tactical electronic support measures (ESM).

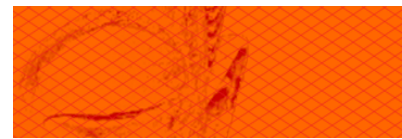
The Fourth Department, which could have possible computer network attack (CNA) responsibilities, has at least four bureaus, one brigade, and two regiments. The Fourth Department's primary training and education organization for junior officers is the PLA Electronic Engineering Academy [解放军电子工程学院] in Hefei.¹⁴⁸ The Fourth Department oversees the GSD 54th Research Institute, which most likely provides engineering support, and also maintains close links with a number of China Electronic Technology Corporation (CETC) entities, including the 29th Research Institute in Chengdu, the 36th Research Institute in Jiaxing, and the 38th Research Institute in Hefei.

Operational Fourth Department units include an ECM brigade with headquarters is in Langfang, Hebei Province and subordinate battalion-level entities located in Anhui, Jiangxi, Shandong, and other locations in China.¹⁴⁹ At least two Fourth Department units are on Hainan Island, with one apparently dedicated to jamming of U.S. satellite assets. A regimental-level unit located on Hainan Island appears to have either operational or experimental satellite jamming responsibilities.¹⁵⁰ Military Regions, Air Force, and Navy have at least one ECM regiment. The Third Department and GSD Fourth Department are said to jointly manage a network attack/defense training system [网络攻防训练系统].

Conclusion

The GSD Third Department oversees a vast bureaucracy responsible for monitoring foreign communications, assuring the security of PLA computer and communications networks, and conducting cyber surveillance on priority targets around the world. If information is power, then the GSD Third Department represents one of the most powerful bureaucracies in China today. Among its sources of strength is the country's largest pool of well trained linguists specialized in niche areas, such as banking and financial transactions, military activities, energy, and diplomatic exchanges. The combination of SIGINT and CNE, for example, fusing transcripts of phone conversations with intercepted email exchanges, would enable a powerful understanding of plans, capabilities, and activities of an organization or individual in near real time. Key word and voice recognition technology and large data bases permit greater efficiency in collection directed against specific targets. Advanced computing facilitates breaking of all but the most sophisticated encryption and passwords. The linkage between CNO and PLA psychological warfare training units appears reasonable. Monitoring of communications, email accounts, websites, and internal networks could support sophisticated perception management operations.

Based on available information, a notional outline of Third Department SIGINT/CNE collection and analysis responsibilities could be postulated. The aforementioned discussion is tentative and theoretical, and intended to serve as a basis for further inquiry. First, functional Third Department bureaus may operate and process communications intercept systems. For example, the Third Department's Third Bureau may be responsible for intercept and recording of VHF and UHF communications, including cellular phone and microwave networks within line of



sight of collection sites. The Third Bureau collection may be augmented by communications intercepted by TRBs under the MRs, Air Force, Navy, and Second Artillery.

In addition to Third Bureau collection operations, Third Department 12th Bureau assets are dedicated toward intercept of foreign satellite communications. In addition to intercepting satellite communications from sites around China's periphery, the 12th Bureau may also operate specialized equipment on board satellites that are capable of intercepting communications around the world from Chinese space-based systems. The 57th Institute's role in the FY-3 weather satellite program could be indicative of at least an experimental space-based communications intelligence package. The PLA is already believed to operate a small number of electronic reconnaissance packages.

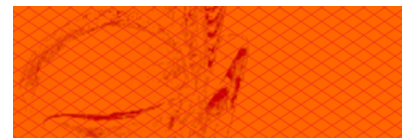
Regional bureaus appear to be responsible for translation, fused analysis, and reporting of raw communications intercepts collected by the Third and 12th Bureaus, and perhaps information collection through CNE assets. Whether or not regional bureaus have authority to task collection is unknown. The Third Department Second Bureau in Shanghai appears to be focused on the United States. Individual offices under the Second Bureau may be compartmented by specialty, for example one office dedicated to political issues, and others for economic, technology, military, and so forth. The Third Department Fourth Bureau, focused on Japan and Korea, could be organized along similar lines. The scope of the Sixth Bureau, headquartered in Wuhan, remains unclear. Subordinate offices stretch across central China from Xiamen to Kunming, suggesting a possible focus on Taiwan, southeast Asia, and South Asia. The Eighth Bureau appears focus on translation, analysis, and reporting on Western Europe.

A significant portion of Third Department collection and analytical resources are dedicated to the former Soviet Union. Three out of its 12 bureaus have a Russia-related mission – the Fifth Bureau headquartered south of Beijing, and 10th and 11th Bureaus based in northern Beijing. While speculative, the Fifth Bureau may have a translation, analysis, and reporting mission while the 10th and 11th Bureaus have functional missions, such as the 10th Bureau's monitoring of Russian and Ukrainian missile tests and space launches. The mission of the Third Department 11th Bureau – the so-called the “2020 Unit” – remains a mystery.

Remaining bureaus may have other niche missions beyond collection and/or translation and reporting. The First Bureau may be responsible for encryption of communications intercepts to be transmitted via a dedicated, secure, and ensuring security of internal Third Department networks. It also may be responsible for decoding intercepted communications. A separate bureau, such as the Ninth, could be responsible for maintaining data bases, and possibly for fused strategic analysis based on reporting from the Second, Fourth, and other regional bureaus.

Beyond its traditional SIGINT mission, the Third Department serves as the national authority for CND and most likely CNE. However, based on currently available information, there does not appear to be a Third Department bureau dedicated to the CNE mission. In addition to its encryption/decryption function, the Third Department First Bureau appears to have CND responsibilities, and hints exist that the Seventh Bureau may have some CNO role. However, the Seventh Bureau's large ground station in northwestern Beijing, receiving from and transmitting to communication satellites positioned along the equator above Africa and the western Pacific, indicates a mission well beyond CNO.

Identifying specific units involved in CNE operations is difficult. Western reporting suggests that MR TRBs, such as the Chengdu MR First TRB, may have been involved in cyber



surveillance. Regardless, classified, internal networks of the Department of Defense, intelligence community, and rest of government presumably would be priority targets. In Senate testimony in 2011, Director of National Intelligence James Clapper outlined concerns about Chinese cyber surveillance, highlighting that the “Chinese have made a substantial investment in this area, they have a very large organization devoted to it and they’re pretty aggressive.”¹⁵¹

The degree of control that the GSD Third Department and subordinate bureaus exercise over the TRB bureaucracies of the seven MRs, Air Force, Navy, Second Artillery, and Military Districts is unknown. If monitoring of the cybersphere and intrusion of foreign computer networks is an extension of SIGINT, then one could assume the Third Department prefers to operate surreptitiously. Alerting defenders of vulnerabilities within communications and computer networks seems to contradict a basic cryptologic principle. Third Department resources dedicated toward high performance computing – the best in China – and its large arsenal of competent linguists could constitute China’s cryptologic “A-Team.”

One possibility is that a capable yet overt “B Team” operates independently at the MR or Military District level. However, given its oversight of the cybersphere in China, alongside domestic law enforcement, Third Department authorities, at a minimum, are likely aware of CNE activities directed against foreign targets from Chinese soil. Regardless, if the “B Team” in China has been the main source of cyber surveillance, one should wonder what a GSD Third Department “A Team” could achieve when operating in a clandestine fashion.

As a final note, the linkage between psychological warfare and CNO indicates a broader perspective than that adopted in the United States. Rather than a narrow technical concern over hostile computer network attacks, Chinese authorities may also seek to counter the introduction of ideas and concepts deemed harmful to the CCP’s monopoly on state power. A priority of CNE operations may be identification of friends and foes in Washington through social network analysis.

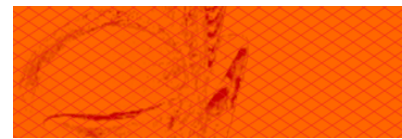
Unsubstantiated rumors regarding the transfer of Third Department Director Wu Guohua for his inability to control CNE operations are interesting. If true, it appears that senior civilian leaders could have some understanding of the political damage caused by overt, hostile network penetration. The PRC government has legitimate information security concerns. However, aggressive and overt cyber surveillance directed against foreign targets does little to engender sympathy. The inability of the GSD Third Department to control intrusive cyber activities directed against foreign entities may indicate a profound weakness in the governance of China’s sprawling cyber-infrastructure.

¹ The authors would like to extend appreciation to Dennis Blasko, Ellis Melvin, and the Leaker [漏斗子] for their useful insights, inputs, and/or comments.

² The use of *bao zhang* [保障] most likely means “support” but could also be “assurance.” Initial indications suggest that the base is subordinate to the GSD Informatization Department, which was previously known as the GSD Communications Department. See “Our Hospital Examines Requirements of GSD Satellite Communications Station” [我院赴总参卫星通信总站调研卫勤保障需求], 309 Hospital website, May 17, 2011, at http://www.309gk.com/news_detail_xsdt.asp?id=8328.

³ “China Maps Out Informatization Development Strategy,” May 11, 2006, PRC Embassy in the Washington DC, at <http://www.china-embassy.org/eng/xw/t251756.htm>.

⁴ Cryptology could be defined as the technical practice and study of secure communication in the presence



of third parties. The GSD Third Department is assigned a cover designator of the 61195 Unit.

⁵ The Third Department is also known as the Technical Reconnaissance Department [技术侦察部]. See “Lantern Through the Night: Central Military Commission Second Bureau” [“走夜路的灯笼”:军委二局], Xinhua, July 4, 2011, at http://www.js.xinhuanet.com/xin_wen_zhong_xin/2011-07/04/content_23160214.htm.

⁶ See sample chapter of Roger Faligot, *Secret history of Chinese Spies: Chapter 12: The People's Liberation Army of Cyberwarriors* (Paris: Nouveau Monde Editions), http://www.lerenseignement.com/nouveaumonde/pdf/4200_Les-services-secrets-chinois---version-anglai.pdf.

⁷ For one report on challenges to Chinese networks, see “Rising Releases 2010 Report on Threats to Corporate Security” [瑞星发布 2010 企业安全报告 九成国内企业曾被入侵], *China Rising*, March 11, 2011, at <http://www.rising.com.cn/about/news/rising/2011-03-11/9056.html>.

⁸ See, for example, “Tracking GhostNet: Investigating a Cyber Espionage Network,” *Information Warfare Monitor*, March 29, 2009, at <http://www.nartv.org/mirror/ghostnet.pdf>. SIGINT consists of communications intelligence (COMINT) and electronic intelligence (ELINT). The latter involves collection, analysis, and storing of radar emissions. While Third Department has the COMINT portfolio, the GSD Fourth Department likely is responsible for ELINT. See Ian Easton and Mark Stokes, *China's Electronic Intelligence Satellite Developments: Implications for U.S. Air and Naval Operations* (Arlington, VA: Project 2049 Institute, 23 February 2011).

⁹ See James Mulvenon, “PLA Computer Network Operations: Scenarios, Doctrine, Organizations, and Capability,” in *Beyond the Strait: PLA Missions Other Than Taiwan*, eds. Roy Kamphausen, David Lai, and Andrew Scobell, Strategic Studies Institute, U.S. Army War College, April 2009, p. 274; and Bryan Krekel, “Capability of the People's Republic of China to Conduct Cyber Warfare and Computer Network Exploitation,” Northrop Grumman Corporation Information Systems Sector Report for the US-China Economic and Security Review Commission, at http://www.uscc.gov/researchpapers/2009/NorthropGrumman_PRC_Cyber_Paper_FINAL_Approved%20Report_16Oct2009.pdf. For an excellent review of Chinese cyber operations, see Desmond Ball, “China's Cyber Warfare Capabilities,” *Security Challenges* (Australia), Vol. 7, No. 2 (Winter 2011), pp. 81-103, at <http://www.securitychallenges.org.au/ArticlePages/vol7no2Ball.html>.

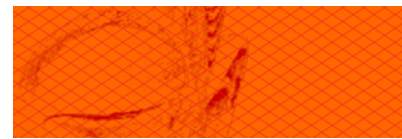
¹⁰ For the concept of “without understanding how to attack, one will not know how to defend” [不懂进攻就不会防守], see Qiu Junbo and Hu Zewen, “The Incredible Abilities of Hacker MM: Chengdu Area Universities' Cyber Defense and Attack Competition” [“黑客 MM”实力不俗 成都高校举办网络攻防大赛], *Sichuan Morning News*, April 25, 2005, <http://news.qq.com/a/20050425/001504.htm>. A 2007 news article published on Chengdu's University of Electronic Science and Technology of China website at <http://news.cduetc.cn/news/xykj/ShowArticle.asp?ArticleID=5030>. Also see You Ming and Zhou Xiyuan, “Analysis of Attack and Defense Mechanisms in Information Network War” [信息网络对抗机制的攻防分析], *Network Security Technology and Application*, December 6, 2004, at http://tech.ccidnet.com/art/1101/20041206/185771_1.html.

¹¹ See “Information Operations,” Joint Publication 3-13, Joint Chiefs of Staff, February 13, 2006, at http://www.fas.org/irp/doddir/dod/jp3_13.pdf.

¹² For an excellent overview of the General Staff Department, see David Finklestein, “The General Staff Department of the Chinese People's Liberation Army: Organization, Roles, & Missions,” in James C. Mulvenon and Andrew N.D. Yang, eds. *The People's Liberation Army as Organization: Reference Volume v1.0*, Santa Monica, CA: RAND, CF-182-NSRD, 2002, pp. 122-224. See also Krekel, “Capability of the People's Republic of China to Conduct Cyber Warfare and Computer Network Exploitation;” and Desmond Ball, “Signals Intelligence In China,” *Jane's Intelligence Review*, Vol. 7, No. 8, August 1995, pp. 365-370. Also see Desmond Ball, “China's Signals Intelligence (SIGINT) Satellite Programs,” Australian National University Strategic and Defence Studies Centre Working Paper #382, December 2003.

¹³ See Ian Easton and Mark Stokes, *China's Electronic Intelligence Satellite Developments: Implications for U.S. Air and Naval Operations* (Arlington, VA: Project 2049 Institute, 23 February 2011).

¹⁴ The report asserts that due to the urging of Hu Jintao, Wu allegedly was assigned to the Second Artillery instead of forced retirement. See “Cyber-Warfare Chief Removed,” *Intelligence Online*, March 31, 2011. Born in March 1954, Wu Guohua was trained in Russia and spent most of his career at the PLA Foreign



Language Institute.

¹⁵ See “General Staff Department Investment into Construction of Bayi Aimin School Put Into Use” [总参援建疏勒县“八一爱民学校”竣工投入使用], Shule Government website, September 26, 2010, at http://www.shule.gov.cn/ShowNews_Content4457.shtml. Liu replaced Wang Yongsheng [王永生] as Political Commissar. See “Yan’an: Wang Yongsheng, General Staff Department Third Department Political Commissar Inspects Restoration Site of Central Military Commission Second Bureau” [延安：总参三部政委王永生视察军委二局旧址修复工程], *Yan’an Daily*, October 19, 2009, at <http://www.dashanbei.com/news/1/38469.html>. Liu was born in 1956 in Hubei’s Hong’an County [红安县].

¹⁶ Former Political Commissar of the PLA Foreign Language School, Major General You Lingquan [有令泉], is the Third Department Political Department Director. Logistics Department Third Department Deputy Director is Qin Xianming [秦显明]. Referenced Chinese online article “Opening Day for Beijing Xishan National Forest Park” [北京西山国家森林公园正式开园], Beijing Municipal Bureau of Landscape and Forestry, September 27, 2011, http://www.bjyl.gov.cn/zwgk/zwxx/201109/t20110927_98981.html. Third Department also has a subordinate Organization Department, formerly directed by Wang Bingtian [总参三部组织部原部长王秉田]. See Wu Yi [吴怡], “General Competition Program” [大赛总方案], *South City Network* [南方都市网], November 8, 2010, http://www.nfdsw.com/news/2010/1108/index_dszs/114905.htm.

¹⁷ Senior Colonel Geng Ruihua [耿瑞华] serves as S&T Equipment Bureau Deputy Director as of August 2011. See “PLA University of Science and Technology, General Staff Third Department, Visits the Radio Reconnaissance Site Xiaobu to Observe Education” [解放军理工大学、总参三部到小布第一部无线电侦察台旧址参观学习], Ningdu China government, http://www.ningdu.gov.cn/xwzx/xzdt/201105/t20110503_58574.htm; Liu Xiangdong [刘向东] had previously been in the position. See Zhuang Hao-bin [庄浩滨], “National Information Security Engineering Technology Research Center establishes roots in Shenzhen” [国家信息安全工程技术研究中心“落地”深圳], Shenzhen News [深圳新闻网], October 2, 2008, http://www.sznews.com/zhuanti/content/2008-10/12/content_3301180.htm; also see Fan Run-hu [樊润虎], “Vice President Xuan Yimin Leads Delegation to Beijing General Staff Third Department for Research and Exchange” [宣益民副校长带队赴北京总参三部调研交流], Science and Technology Agency [科技处], January 18, 2010, at <http://zs.njust.edu.cn/news/news/xxyw/20100118140939.htm>. The bureau also oversees a Metrology Center [计量测试中心] (61236 Unit), which is in the Third Department headquarters area. For reference to the S&T Intelligence Bureau, see “GSD Third Department S&T Intelligence Bureau Visits Our School for Exchange Work” [总参三部科技情报局来我馆交流工作], cnliam.com, May 24, 2011, <http://www.cnliam.com/node/168930>.

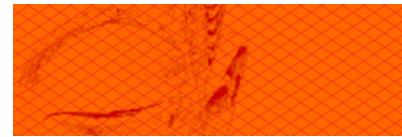
¹⁸ See Ashlee Vance, “China Wrests Supercomputer Title From U.S.,” *New York Times*, October 28, 2010, at <http://www.nytimes.com/2010/10/28/technology/28compute.html>.

¹⁹ For example, the 56th Research Institute may be linked with the National Information Assurance Engineering Technology Research Center [国家信息安全工程技术研究中心]. “SSL VPN Password Generator Passes National Cryptological Bureau Certification” [SSL VPN 密码机通过国家密码局鉴定], Sanjiang Space Group Communications Company website, May 14, 2011, at <http://www.ssnc.com.cn/Item/37.aspx>.

²⁰ “China 15th 863 Program First Area Expert Working Group and Focus Area Expert Working Group Member List” [国家“十五”863计划（民口）第一届领域专家委员会和主题专家组成员名单], undated, at <http://www.kjc.dicp.ac.cn/meeting/committee-list.htm>. The 56th Research Institute is the [江南计算技术研究所]. Other prominent information security specialists include Ji Cengrui [吉增瑞] and Chen Zuoning [陈左宁].

²¹ The 57th Research Institute may carry an MUCD of the 61482 Unit. It also hosts a Signal Processing Key Defense Laboratory [信号盲处理国防科技重点实验室].

²² See “Chengdu City Southwest Electronics and Telecommunications Research Institutes Recruitment for



Interns” [成都市西南电子电信技术研究所招聘（实习生）], Sichuan University State Software Demonstration College, December 29, 2009, at http://sw.scu.edu.cn/new_sw/infoDetail.jsp?id=1714. Also see “Our School and General Staff Department’s 57th Research Institute Sign Strategic Cooperative Agreement” [我校与总参第五十七研究所签署战略合作协议], Xdnice.com, March 15, 2011, at <http://www.xdnice.com/news/2011-03/90181.html>. The specific location in Dujiangyan is 崇州市, 青城山.

²³ Key researchers at the 57th Research Institute [[西南电子电信技术研究所] include Ye Shangfu [叶尚福] and Zhu Zhongliang [朱中梁]. See “Zhu Zhongliang” [朱中梁], Baidu Baike, at <http://baike.baidu.com/view/238698.htm>.

²⁴ Yu Jian [余健] directs the institute, and has a grade equivalent to a deputy group army commander. Chen Huiqi [陈惠启] served as deputy director, and now appears to have been promoted to Political Commissar. Chen Huiqi was formerly 61849 Unit PC. Song Xuelei [宋学雷] and Meng Xiangping [孟祥平] are deputy directors. Cheng Jian [程建] serves as senior engineer, and Yu Ling [游凌] as deputy senior engineer. Sun Zhengbo [孙正波] is another senior engineer within the 57th Research Institute. Among various sources, see “Our School Signs Strategic Partnership Agreement with GSD 57th Research Institute” [我校与总参第五十七研究所签署战略合作协议], Xian University of Electronic S&T, March 15, 2011, at <http://www.xdnice.com/news/2011-03/90181.html>. The institute is located in Chengdu’s Wuhou District, 118 First Ring Road West, Section 1. The Shuangliu site is referred to as a “work station” [双流工作站]. The Guangdong unit carries an MUCD of the 61849 Unit.

²⁵ See “Introduction to Company” [企业简介], SWAI website, undated, at <http://www.58suo.com/index/about.asp?id=2>. and “Information Security S&T Seminar Begins in Beijing” [信息安全技术’技术科学论坛在京举行], China Academy of Sciences Academic Divisions website, November 27, 2005, at http://www.casad.cas.cn/gzdt/200511/t20051128_43265.html.

²⁶ Director of SWAI [西南自动化研究所] as of early 2010 is Zuo Yanmin [左艳民].

²⁷ See “Deputy Director Xuan Yimin Represents School in Discussions with GSD Third Department” [宣益民副校长带队赴北京总参三部调研交流], Nanjing University of S&T website, January 18, 2010, at <http://zs.njust.edu.cn/news/news/xyw/20100118140939.htm>.

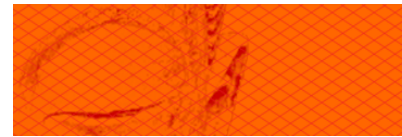
²⁸ “New Leap in Network Security Technology” [网络信息安全技术的新飞跃], Yanzhao (Hebei Province) Political Consultative Committee website, undated, at <http://www.zxxw.gov.cn/ReadNews.asp?NewsID=2578&BigClassName=%E5%A7%94%E5%91%98%E5%95%86%E5%8A%A1&SmallClassName=%E5%A7%94%E5%91%98%E5%95%86%E5%8A%A1&SpecialD=0>. In the past, Huang was affiliated with a office under a unit with an old MUCD of the 57405 Unit.

²⁹ See James Mulvenon, “PLA Computer Network Operations: Scenarios, Doctrine, Organizations, and Capability,” in *Beyond the Strait: PLA Missions Other Than Taiwan*, eds. Roy Kamphausen, David Lai, and Andrew Scobell, Strategic Studies Institute, U.S. Army War College, April 2009, p. 274

³⁰ Yao Jingsong [姚京松] is a key player within the Third Department Computing Center. The China North Computing Center is said to be involved in a number of major computing and information security projects, and is located at 100 Shaoziying, Haidian District. The center is said to be managed jointly with the National Computing Center. The Communications Security Bureau is the 通信机要局 in Chinese. The China North Computing Center [北方计算中心] has also been referred to as the 61539 Unit or “418 所.”

³¹ The National Research Center for Information Technology Security [国家信息技术安全研究中心] has also been referred to as the PLA Information Security Center [解放军信息安全中心]. See “National Information Technology and Security Research Center” [国家信息技术安全研究中心], ISRA Website, undated, at <http://www.isra.org.cn/about/index.htm>; and “China Futures Association Information Director Liu Tiebin: Ideas for IT System Security Design” [中国期货业协会信息部主任刘铁斌：IT 系统安全体系设计思路], China Information Network, September 4, 2009, at <http://www.cio360.net/Page/1802/InfoID/307354/SourceId/11300/PubDate/2009-09-04/Default.aspx>.

³² For linkage between the PLA Information Security Evaluation and Certification Center [解放军信息安全测评认证中心] and the Third Bureau, see “High Tech Zone S&T Committee Holds Annual and Next Year Work Meeting” [高新区科技局年度工作总结及明年工作安排], Chengdu High Technology Development Zone website, October 10, 2008, at http://www.cnwmz.com/zongjiebaogao/200810/77065_3.html. Wu



Shizhong [吴世忠] serves as Director of the Information Security Evaluation and Certification Center, although it is unclear if this is the PLA center or a civilian counterpart. Deputy Director of the PLA center is Zhou Xuefeng [周学锋], who previously commanded the 61377 Unit in Shenzhen.

³³ Ning Jiajun is the Chief Engineer of the National Information Center. “Profile of National Information Center Expert Ning Jiajun” [国家信息中心专家委员会主任宁家骏简介], DoSTOR, December 8, 2008, at <http://www.dostor.com/article/2008/1208/4538078.shtml>. Also see “National Electronic Political Affairs Network Security System Program Approved by Experts Review” [国家电子政务外网安全保障体系方案通过专家评审国家电子政务外网安全保障体系方案通过专家评审], Hainan Province Industry and Informatization Office Network, May 29, 2006, at http://itb.hainan.gov.cn/hnsgxt/zwgk_7771/2/200606/t20060602_336833.html. Major General Yuan Wengong [袁文恭] is a senior level Third Department information security specialist (grade equivalent to a Deputy Group Army Commander). The Beijing Post and Telecommunications University also manages an information security center [北京邮电大学信息安全中心], including a network attack/defense lab [网络攻防技术教育部重点实验室]. See “Introduction to the Information Security Center” [信息安全中心简介], Beijing University of Post and Telecommunications School of Computer Science, undated, at http://scs.bupt.edu.cn/cs_web/introduce/xxaqcenter.html.

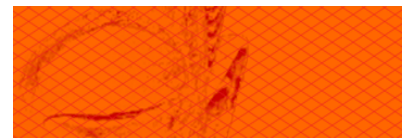
³⁴ See “Construction Completed on National Information Security Engineering Technology Center Website” [国家信息安全工程技术中心网站完工], Beijing Lan Bo Synergy Technology Co. Ltd. [北京蓝博融智科技有限公司], September 22, 2008, accessed October 26, 2011, http://www.librich.com/news_view.asp?viewid=51; further, “Beijing Guowei Xin’an Network Technology Company” [北京国卫信安网络技术有限公司] works closely with Third Department First Bureau in supporting the project. See Yin Chuan-xi [尹传喜], <http://www.ushi.cn/p/2991>; and “Cooperation Partners,” China Cuslink Co., Ltd. [北京中海通科技有限公司], <http://www.cuslink.cn/Partners.aspx>.

³⁵ In addition to the Third Department’s Luoyang language center [解放军外国语学院], the GSD Second Department may also have a foreign language training center in Nanjing.

³⁶ The Information Engineering University was formed in 1999 through merging of several academies responsible for information engineering, surveying, and other specialties. The University’s website can be accessed at <http://www.plaieu.cn/>. The original PLA Information Engineering Academy was formed in 1985 and was formerly known as the Engineering Technology Academy [解放军工程技术学院]. A branch of the Information Engineering University (95811 Unit) is in the northwestern Yongfengxiang [永丰乡] suburb of Beijing, near the Seventh Bureau Satellite Ground Station. Use of an Air Force MUCD implies a possible Service link, and affiliation with the Air Force Second TRB training group in the same area. Other branches are located in Jiangsu [常熟市; 73691 Unit]; Fuzhou [福州市新店; 73640 Unit]; and Henan’s Xinyang [信阳; 72331 Unit]. See “2010 China People’s Liberation Army Information Engineering University Requirement for Admissions” [2010年中国人民解放军信息工程大学招生章程], China People’s Liberation Army Information Engineering University, August 2, 2010, at <http://gaoxiao.xuanxiao.com/1876/8114.html>.

³⁷ Xu Yan, “Discussion of Whether China Should Launch Cyber Citizens To Strike Back at Anti-China Commentary” [我国应发动网民反击敌对势力反华舆论], *Renminwang*, March 31, 2010, at http://mil.chinaiiss.com/html/20103/31/a24685_3.html; and Wu Juncang, Jiang Jie, and Ma Zhong, “Study on Characteristics and Policies of Hostile Network Psychological Warfare” [敌对势力网络心理战的特点及对策研究], *Journal of the Political Academy*, 2002(15)6, at http://d.wanfangdata.com.cn/periodical_xazxyxb200206010.aspx; also see “Psychological Warfare Moving in a New Direction” [心理战新走势透析李元奎 王君学], June 16, 2008, at http://www.chinamil.com.cn/site1/2008b/2008-06/16/content_1317765.htm. Also see “Computer Network Attack/Defense Technology Overview” [计算机网络攻防技术概述], Shaanxi Network, undated, at <http://www.shanxilunwen.cn/Article/ShowInfo.asp?InfoID=110>.

³⁸ See “Deeds of Wu Lianfeng [吴连丰事迹], Xinhua News (Hebei), March 14, 2007, at http://www.he.xinhuanet.com/test/2007-03/14/content_9531515_1.htm. For an interesting U.S. perspective on the linkage between cyber and psychological operations, see Christopher Ford, “China and



the Cyber Landscape,” *New Paradigms Forum*, July 22, 2011, at <http://www.newparadigmsforum.com/NPFtestsite/?p=1000>.

³⁹ Dong Hailiang, Hu Huaping, Liu Jianfeng, and Yu Xinping, “Strategic Research on Transmitting Information over Networks” [基于大规模网络信息发送的任务调度策略研究], *Microelectronics and Computers*, 2010(27)8, at http://d.wanfangdata.com.cn/periodical_wdzyysj201008041.aspx. Another unit noted includes the 61070 Unit, which is subordinate to the 61716 Unit.

⁴⁰ For reference to the First, Eighth, and S&T Intelligence Bureaus in Hanjiachuan [韩家川], see “Introduction to the Hanjiachuan Military Retiree Institute” [韩家川军休所介绍], Haidian District Military Retiree Network, <http://hdjxb.bjhd.gov.cn/znjg/jxs/jxs12/>.

⁴¹ For a superb overview of militia and overall PLA organization, roles, and missions, see Dennis J. Blasko, *The Chinese Army Today: Tradition and Transformation for the 21st Century*, (New York: Routledge, 2006), p. 88.

⁴² “Strengthening of Military District Information Warfare Capabilities” [加强省军区系统信息作战力量建设], *PLA Daily*, July 22, 2004, at

<http://www.chinamil.com.cn/gb/defence/2004/07/22/20040722017055.html>. For one concept of militia and attack/defense, see Wang Chenxiang, “Focus on Military Preparation to Advance Militia Informatization” [着眼军事准备大力推进民兵信息化建设], *Gansu Economic Information Network*, April 2005, at <http://www.gsei.com.cn/xinxinianjian/200504/2006214121202.htm>.

⁴³ “Announcement of Advanced Information Security Courses for Young Professionals” [关于举办高校信息安全专业青年骨干教师高级研修班的通知], *Wuhan University Network*, April 27, 2007,

at http://cs.whu.edu.cn/article_view.php?id=725. Also see “Concept of Militia and Attack/Defense” [着眼军事准备大力推进民兵信息化建设], *Gansu Economic Information Network* [甘肃经济信息网], 2005, <http://www.gsei.com.cn/xinxinianjian/200504/2006214121202.htm>.

⁴⁴ Units that are regiment level and above are assigned a military unit cover designator (MUCD). The PLA MUCD system was most recently changed in 2002. Before 2002, Third Department units were assigned an MUCD block between 57301 and 57425. A new system was implemented in 2002. GSD units were assigned MUCDs numbered from 61001 to 61999. The old system had some logic in its numbering system. Now, MUCDs appear to be randomly assigned to all GSD units, including Operations Department, Second Department, Third Department, Fourth Department, and so forth.

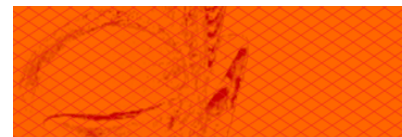
⁴⁵ K'an Chung-kuo: “Intelligence Agencies Exist in Great Numbers, Spies Are Present Everywhere; China's Major Intelligence Departments Fully Exposed,” *Chien Shao*, January 1, 2006, No 179, pp 21-27. Also see http://www.rand.org/pubs/conf_proceedings/CF182/CF182.ch4.pdf.

⁴⁶ For references to GSD Third Department First Bureau, see “Han Yiming” [韩以明], *Qinhuangdao Government Website*, June 23, 2008, at <http://121.22.8.170:81/content.jsp?code=188/2008-00006&name=>. Dujiangyan was formerly known as Guanxian [灌县].

⁴⁷ Huang Minqiang [黄民强] is referenced in a membership list as a member of the Information Assurance Expert Working Group. See “China 15th 863 Program First Area Expert Working Group and Focus Area Expert Working Group Member List” [国家“十五”863计划(民口)第一届领域专家委员会和主题专家组成员名单], undated, at <http://www.kjc.dicp.ac.cn/meeting/committee-list.htm>. Li Jianhua [李建华] directs the expert working group. Other members include Chen Xiaohua [陈晓桦] from the MSS 13th Bureau.

⁴⁸ For reference to the Dujiangyan site (61480 Unit) in the area, see “Resident 61480 Unit Troops Join Earthquake Rescue in Timely Manner” [驻军 61480 部队及时参加抗震救灾], *China Shuangyong Network*, May 29, 2008, at <http://sy.mca.gov.cn/article/kjzj/200805/20080500015675.shtml>. The unit may be located south of Dujiangyan, in Jiezi Village [街子镇]. 61480 Unit Political Commissar as of 2010 was Jiang Yinghui [姜颖慧]. See Also see “City People’s Congress Leaders Pay Visit to 61480 Unit” [市人大领导慰问 61480 部队官兵], *Chongzhou City National People’s Congress network*, August 2, 2010, at <http://jjj.chongzhou.gov.cn/sdbz.php?act=show&id=127903&headpic=rd&tpl=bm&ccid=865&headpic=rd>. A training-related office (61482 Unit) may be in Zhongxing Village [中兴镇].

⁴⁹ For reference to Sichuan University’s Network Attack/Defense Lab, see “Sichuan University Nengshi Organizes Spring Outing” [川大能士组织春游], *Sichuan University Nengshi Information Security*



Company News, March 30, 2007, at <http://www.nesec.com.cn/nesec/newshtml/2007411113646.htm>. Sichuan University was a sponsor of a computer attack/defense simulation exercise and competition. See “Chengdu, Sichuan Premieres Real World Attack/Defense Network Hacker Warfare Simulation” [四川成都首演网络攻防战 模拟真实黑客攻击], Sichuan Online, November 1, 2004, at <http://tech.sina.com.cn/i/2004-11-01/0836451286.shtml>. Other recent network attack/defense competitions were held in Guangzhou in 2011. See “The fifth annual Guangdong provincial universities ‘Neusoft Cup’ cyber attack and defense competition awardees list” [第五届广东省高校“东软杯”网络攻防大赛获奖名单], accessed October 26, 2011, <http://202.104.17.212:85/newsshow.asp?newsid=26>.

⁵⁰ Former 2nd Bureau Director Lu Peng [吕蓬] now serves as Director of the Shanghai Institute for International Strategic Studies.

⁵¹ The Third Department Second Bureau was formerly the 57322 Unit. For reference to the Third Office (61587 Unit) in Changning, see “Construction Engineering Design Concept” [建设工程设计方案], Shanghai Tianqiao website, January 9, 2010, at

http://www.shgtj.gov.cn/ghsp/ghxk/gcsjfa/200903/t20090327_295374.htm. The office may have previously been assigned an MUCD of the 57343 Unit. Also see “Changning District Officials Visit GSD Third Office for Chinese New Year” [新春佳节长宁区领导慰问总参三处], Changning Cultural Bureau website, February 9, 2009, at <http://wgj.sh.gov.cn/node2/node741/node742/node753/u1a35870.html>.

⁵² Qin Xiyin [秦夕银] serves as Fourth Office Political Commissar. The Fourth Office (61800 Unit) may previously have been known as the 57334 Unit.

⁵³ The 61800 Unit or the 61398 Unit was formerly the 57334 Unit. As of Sept 2011, the 61398 Unit Fourth Office PC is [秦夕银]. See <http://bsjy.eicbs.com/Disp.Asp?ID=25451&ClassID=632&UserID=..A> previous PC was Liu Qizheng [刘其正].

⁵⁴ The 61789 Unit in Changning [长宁区] was formerly assigned a cover designator of the 57374 Unit. As of 2010, Gao Lei [高磊] served as Political Commissar. See “Jing’an Government Officials Visit Expo Security Forces” [静安区政府领导走访慰问驻区世博安保部队], Shanghai City website, November 12, 2010, at <http://www.shanghai.gov.cn/shanghai/node2314/node2315/node15343/u21ai458427.html>. The unit address is 810 Yan’an Zhong Road [延安中路 810 号]. The Luodianzhen office cover designator may be the 61158 Unit.

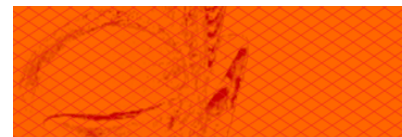
⁵⁵ As of 2011, SrCol Li Shoukai [李守凯] was the Third Bureau Political Commissar. He formerly served as Director, Third Bureau Political Department. See “District Administration Bureau Leaders Visit Local Military Units” [区民政局领导走访驻区部队], Dongcheng District website, February 23, 2011, at <http://www.beijing.gov.cn/zfzx/qxrd/dcq/t1150643.htm>. From 2007 to as recently as 2010, Deputy Political Commissar was [尹志刚]. See “The third Annual Beijing Cultural and Sports Festival” [第三届北京明城墙文化体育节], Beijing City Dongcheng District website, at <http://www.bjcwqwl.com/whxw/news013.htm>.

⁵⁶ At one time, the Third Bureau had merged with Sixth Bureau, but spun off again. For brief reference to the existence of a 13th Office under the Third Department Third Bureau in Wulumuqi, see “He Who Adheres to the Test of Faith Shall Pass the Test” [谁坚持了诚信，谁就会在时间的考验中胜出], Xinjiang Economic News, March 29, 2011, at <http://news.hexun.com/2011-03-29/128320801.html>.

⁵⁷ Dalian (61120 Unit) is the Third Bureau’s First Office. Formerly designated the 57346 Unit, the Sixth Office (61542 Unit) appears to be situated in Xian. For reference to Ningdu, see “GSD Third Department Officers Conduct Revolutionary Education in Ningdu County” [总参三部军官在宁都县进行革命传统教育], Red Star News, September 9, 2009 at <http://www.zg1929.com/news/yaowen/20090909/919.html>.

Former Director, Third Bureau Political Department was Zhao Zhenqing [赵振庆], who was noted traveling to Ningdu County in 2009. In the mid-2000s, Third Bureau director was Chen Daiyi [陈诗义]. Another key Third Bureau figure is Xiao Jinghua [肖京华]. Possible office cover designators are: Harbin (61401 Unit), Dalian (61120 Unit), Hangzhou (61791 Unit), Xiamen (61816 Unit), Shenzhen (either the 61377 or 61508 Unit), and Xian (61542 Unit).

⁵⁸ “Mingguang Native Association Holds Conference in Beijing” [明光籍北京同乡联会在北京隆重举行], Chuzhou City website, November 10, 2010, at http://www.chuzhou.gov.cn/art/2010/11/10/art_29_21701.html. Li formerly served as bureau Political



Department Director. Zhao Jiaping [赵家平] serves as Deputy Political Commissar and Wang Hong [王宏] is Director, Political Department.

⁵⁹ The Third Bureau Kunming office (61538 Unit) was formerly designated the 57344 Unit. Another affiliated previous MUCD may be the 57341 Unit. For discussion of the Third Bureau's Kunming site, see "Advanced on the National Anti-Drug Effort" [全国禁毒战线先进集体及先进个人代表简要事迹], China Network, June 2, 2007, at http://www.china.com.cn/law/zhuant/yldp/2007-06/02/content_8332019.htm.

⁶⁰ See "Overview of China Liberation Army Secrecy Committee Technology Security Institute" [中国人民解放军保密委技术安全研究所简介], Baomi.com.cn, at <http://www.baomi.com.cn/?article-36.html>. The unit is under the Third Department's Logistics Department, and affiliated with the PLA Secrecy Committee Technology Security Institute [解放军保密委员会安全技术研究所]. This may be the 61600 Unit in Daxing's Dinghaizhen (former 57351 Unit).

⁶¹ The Shenzhen Office (61508 Unit) is located in the city's Yinhu district. The 61508 Unit Commander is SrCol Liu Dongyi [刘东义]. For a graphic of the 61508 Unit compound in Shenzhen, see "Guangzhou Construction Design Academy Shenzhen Branch," undated, at http://www.szgdi.com/view_p.asp?p_id=164&class_id=3. Former 61377 Unit Commander Zhou Xuefeng [周学锋] transferred to the PLA Information Security [解放军信息安全测评认证中心] in the 2009 timeframe, implying a Third Bureau linkage. He was replaced as 61377 Unit Commander by Meng Zetian [孟泽田].

⁶² The Fourth Bureau may have previously carried a cover designation of the 57324 Unit.

⁶³ See "Recognizing Top Translators for 2009" [2009年受表彰资深翻译家], China Translators Association website, at http://www.tac-online.org.cn/ch/tran/2010-12/09/content_3888394.htm.

⁶⁴ See "To Provide Better Quality Services to Military Retirees" [以更优质的服务态度做好军休工作], Hangzhou Civil Affairs Bureau website, undated, <http://www.hzmz.gov.cn/files/20110328/c988dc99-1d7a-4868-b6e6-8d06cc1087f8.shtml>. The Fourth Bureau's Seventh Office (probably the 61085 Unit) may have formerly been the 57367 Unit. The Eighth Office is the former 57368 Unit.

⁶⁵ The 61680 Unit was formerly designated as the 57369 Unit.

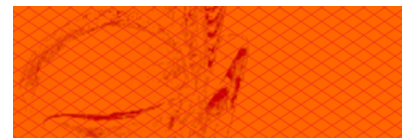
⁶⁶ Fourth Bureau headquarters complex is located in Qingdao on 5 Luxun Road [青岛市抚顺路5号]. The previous MUCD of the Fourth Bureau's Eighth Office is the 57368 Unit. See "Recognizing Top Translators for 2009" [2009年受表彰资深翻译家], China Translators Association website, at http://www.tac-online.org.cn/ch/tran/2010-12/09/content_3888394.htm. Huanglong Wanggou [黄龙王沟] is about 20 kilometers west of Xinzhou.

⁶⁷ See "Recognizing Top Translators for 2009" [2009年受表彰资深翻译家], China Translators Association website, at http://www.tac-online.org.cn/ch/tran/2010-12/09/content_3888394.htm; and "Deputy Directors of the City People's Congress" [市人大常委会副主任], December 6, 2005, at http://www.jzsr.gov.cn/news_view.asp?newsid=234. The Suihua Office may be the 61689 Unit.

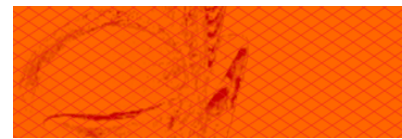
⁶⁸ The Sixth Bureau was formerly assigned an MUCD of the 57316 Unit.

⁶⁹ Jingmen Zone B [荆门乙区] has been associated with Sixth Bureau Second Office, and possibly located in Luoji Village, southeast of Jingmen. Reference to a Third Department-affiliated Jingmen Zone A [荆门甲区] has also been noted. The Sixth Bureau also had a presence in the village of Ziling, possibly the Sixth Office.

⁷⁰ The Nanchang Seventh Office may have a cover designator of the 61121 Unit. Xiangfan may be the 61245 Unit, and Jingmen the 61367 Unit. The Fourth Office in Kunming's Panlong District may be the 61815 Unit. For reference to the Kunming office, see Xundian County Lei Feng Hope School Recalls the Past: Looking Toward the 10th Anniversary of School Building" [寻甸县雷锋希望小学举办“回顾过去，展望未来”建校十周年庆祝活动], *Yunnan Province Youth Network*, July 19, 2007, at <http://www.ynyouth.cn/city/HTML/26873.htm>. For reference to a 61815 study on satellite communications, see Fu Di and Gao Yong, "Asymmetric PCMA Satellite Signal Interception Method" [非对称 PCMA 卫星信号的截获方法], *Modern Electronic Technology*, (2007), 30(7): 28-34, at <http://read.pudn.com/downloads96/doc/390099/%E9%9D%9E%E5%AF%B9%E7%A7%B0PCMA%E5%8D%AB%E6%98%9F%E4%BF%A1%E5%8F%B7%E7%9A%84%E6%88%AA%E8%8E%B7%E6%96%B9%>



- [E6%B3%95.pdf](#). See a reference to a former unit researcher, see “Team of Experts” [专家团队], *Interconnected Network* [互联网], November 19, 2007, at <http://www.sbwhcm.com/ylqd/ShowArticle.asp?ArticleID=490>.
- ⁷¹ See Tianya Blog. <http://www.tianya.cn/publicforum/content/no05/1/147265.shtml>; and “The Eighth Construction Item Planning Audit Meeting Minutes” [第八次建设项目规划内审会议纪要], People’s Government of Xinjian County website, December 14, 2009, at http://www.nc.gov.cn/xjx/bmgkxx/jsj/fgwj/qtygwj/200912/t20091214_197627.htm.
- ⁷² See, for example, “Diverse Language Identification Method” [一種基于多元組鑒別文本語種的方法], *Journal of Computer Applications*, 2005(25), at http://d.wanfangdata.com.cn/periodical_jsjvy2005z1172.aspx.
- ⁷³ For example, Li Hongqiang [李宏强] has been associated with the Seventh Bureau and has published translated volumes written by prominent U.S. and British writers.
- ⁷⁴ Li Jian, Jiang Chengshun, and Dong Liying, “Data Type Recognition Based on Selective Integration of SVM” [基于選擇性集成 SVM 的數據類型識別], *Computer Engineering*, 2010, Vol 36 (13), at http://d.wanfangdata.com.cn/Periodical_jsjgc201013064.aspx. Dong Liying is from the 61580 Unit.
- ⁷⁵ See Wang Qi and Dan Jun, “NetworkCentric Warfare Development and Technology Strategy” “网络中心战”网络建设和技术策略], *Information Assurance and Communications Security* [信息安全与通信保密], December 2005, pp. 82-84, at http://www.lw23.com/pdf_90d61a36-6c45-48bc-b6c2-4e2ddc8edbb8/lunwen.pdf. The authors are senior engineers within the bureau who specialize in computer network attack and defense. For the internet study, see Yu Hongbo, “Internet Networks of the New Century” [新世纪的 Internet 网], National Senior Conference on Information Technology [全国信息技术高级研讨会], 2001, at <http://scholar.ilib.cn/A-%E4%BC%9A%E8%AE%AE%E8%AE%B0%E5%BD%95ID~6061126.html>. The author has been a member of a national level encryption working group. See http://blog.sina.com.cn/s/blog_5dd035dco100egjq.html.
- ⁷⁶ Zhang Ya’nan and Chen Tao, “Psychological Mechanism of Analyzing Foreign Language Reading” [浅析外语阅读心理机制], *Sciences and Wealth*, 2011(3), at http://d.wanfangdata.com.cn/periodical_kxycf201103095.aspx.
- ⁷⁷ Zhang Lidong, “New Developments in Economic Globalization and International Economic Law” [經濟全球化視角下國際經濟法的新發展], *Law and Society*, 2009(33), at http://d.wanfangdata.com.cn/periodical_fzysh200933235.aspx.
- ⁷⁸ Sources available upon request. The Third Department Seventh Bureau facility maintains an affiliation with, or oversight of, the Beijing-1 satellite ground station [北京一号卫星地面站]. A senior Third Department engineer assigned to the Beijing-1 ground station’s S&T Office is Zhang Xiaoqin [张晓钦]. The Beijing-1 station has participated in research projects related to satellite optical communications and new forms of signal encoding. The ground station, which uses a Beijing post office box of 1965 [北京市 1965 信箱], manages a computer monitoring center [计算机监控中心].
- ⁷⁹ “GSD Eighth Bureau Satellite Receiving System” [总参三部八局卫星电视接收系统], Beijing Blue Satellite Company website, undated, at <http://www.chinabsc.com/html/265.html>. The Eighth Bureau was formerly assigned a 57318 Unit designation. Former Eighth Bureau Political Commissar in the 2005 timeframe was Senior Colonel Hu Dengqiang [胡登强]. However, he appears to have been recently transferred to serve as 11th Bureau Political Commissar. See “Performing the Sacred Duties of Discipline Inspection Cadre” [履行神圣职责 争做合格纪检干部], *Military Party Life*, 2011(4), at <http://oldweb.cqvip.com/qk/60743A/201104/37100809.html>.
- ⁸⁰ See “Branch Construction” [分馆建设], Beijing Haidian District Library website, undated, at <http://www.hdlib.net/hdlib/opencms/hdlib/htgk/fgjs.html>. The Wenquanzhen site is collocated with Air Force communication unit.
- ⁸¹ See “Recognizing Top Translators for 2009” [2009 年受表彰资深翻译家], China Translators Association website, at http://www.tac-online.org.cn/ch/tran/2010-12/09/content_3888394.htm.
- ⁸² One of 10 major generals serving as senior engineers within the Eighth Bureau Second Office is Ran Chongwei [冉崇伟]. Born in Chongqing in February 1962, Ran is a graduate of the PLA Information



Engineering Academy. See “Ran Chongwei Visits Alma Mater to See Teachers and Students,” Chongqing Wuxi County website, April 23, 2010, at http://www.cqwxzx.com/Article_Print.asp?ArticleID=580. For a general introduction, see PLA 61046 Unit” [中国人民解放军六一〇四六部队], *Baike Zhige*, undated, at <http://baike.zhige.net/doc-view-4276>. Also see “Strengthening the Military Soul Through Improvement in Physical and Mental Conditioning – Commemorating the 61046 Unit” [优化环境聚人气, 强健身心凝军魂—记 61046 部队], *China Sports News*, September 13, 2005, at <http://sports.sina.com.cn/s/2005-09-13/1105660025s.shtml>. The Haikou entity (61708 Unit) is said to be near the village of Yunnei Village [云内村].

⁸³ It was formerly the 57401 Unit. See “Notice of the Xiangfan City Committee of the Chinese Communist Party” [中国共产党襄樊市委员会] (通知), Xiangfan City website, August 13, 2010, at <http://www.xf.gov.cn/contents/2575/355663.html>. Address of the Xiangfan office (61245 Unit) main compound is 43 Zhongyuan Road.

⁸⁴ The downlink site (61449 Unit) is visible on Google Earth along Xibeiwang East and Houchangcun Roads. More specifically, the site is located in Liulitun Village [六里屯村].

⁸⁵ “Gong’An Intelligence Department and GSD Establish an Intelligence Analysis Cooperative Mechanism” [公安情报学系与总参某部建立情报研究合作机制], Chinese People’s Public Security University website, June 28, 2010, at

http://www.cpps.edu.cn/cfm_data/shownews_dw.cfm?newsid=1656&fyear=2010.

⁸⁶ “Tai’An Division of Beijing Shandong Enterprise Association Formed” [北京山东企业商会泰安分会成立], Beijing Shandong Enterprise Association, April 14, 2010, at

http://www.lushang.org/news_Detail.asp?id=130. Zhang has been referenced as serving in a Deputy Group Army-level grade.

⁸⁷ “Public Security Intelligence Section and General Staff Department Establish Seminar Cooperation Mechanism” [公安情报学系与总参某部建立情报研究合作机制], Public Security Website, June 28, 2010, at http://www.cpps.edu.cn/cfm_data/shownews_dw.cfm?newsid=1656&fyear=2010. The Ninth Bureau formerly had an MUCD of 57319.

⁸⁸ “Situation Around China and Issues of Taiwan” [我国周边环境形势和台湾问题], HIT website, March 24, 2005, at <http://today.hit.edu.cn/articles/2005/03-24/03130111.htm>; and here: http://jbhg.bjwmb.gov.cn/xx/xx_selinfo.asp?Info_ID=7429&Bar_ID=160.

⁸⁹ One reference asserts that the unit is headquartered in Jiamusi. See “Post 8684,” undated, at http://post.8684.cn/04985030_1645.htm. One Office under the 10th Bureau may be the old 57398 Unit. Ma Lanzhu [麻兰柱] was Political Commissar. The unit appears to maintain a Beijing post office box address of 2651 [北京市 2651 信箱], and address of 33 Xinxi Road in Shangdi.

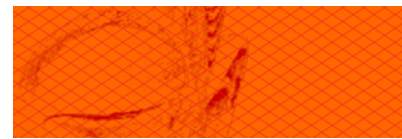
⁹⁰ A China Academy of Social Sciences study notes cooperation along these lines after establishment of relations with the United States in 1979 (thus a 7911 Unit designation for subordinate offices). For a China Academy of Social Sciences assessment of the western sites, see Tao Wenzhao, “History of U.S.-China Relations,” Vol. 2 (1972-2000), Chapter 5: Peaceful Development” [‘中美关系史’下卷 (1972-2000) 之第五章: 平稳发展] (Shanghai: People’s Publishing, 2004), at

http://ias.cass.cn/show/show_project_ls.asp?id=733. At least one Tenth Bureau senior engineer is Guo Shoujin [郭守晋], who has been cited as an authority in telemetry-related technical reconnaissance.

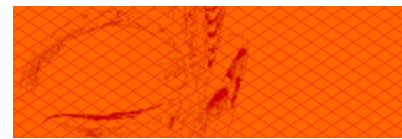
⁹¹ See “Military-Local Unity, Marching Forward” [军地联谊会连心 军民团结齐共进], Shule County Internet Information Network, June 21, 2006, at http://www.shule.gov.cn/ShowNews_Content901.shtml.

⁹² Another unit in the area has a cover designation of 69018. For reference to the 7911 Unit, see “Military and Locals Linked Heart to Heart” [军地联谊会连心 军民团结齐共进], Shule County website, June 21, 2006, at http://www.shule.gov.cn/ShowNews_Content901.shtml. The Third Office in Kashgar may be the 61865 Unit. For reference to a visit to Barenxiang by Third Department Political Commissar, see “General Staff Department Investment into Construction of ‘Bayi Aimin School’ Put Into Use” [总参援建疏勒县“八一爱民学校”竣工投入使用], Shule Government website, September 26, 2010, at http://www.shule.gov.cn/ShowNews_Content4457.shtml. As of 2010, Tenth Bureau Third Office Director is Liu Bing [刘冰] and Political Commissar is Zhang Zhimin [张志民].

⁹³ See “Postal Code for 61762 Unit” [61762 部队邮编], *Postal Code Net* [邮编网], undated, at



- http://post.8684.cn/o4985030_1645.htm. The 11th Bureau's previous MUCD may have been 57321 (or 总字 791 部队). Commander or Political Commissar of the 11th Bureau may be Yang Keqiao [杨可巧].
- ⁹⁴ "New High Tech Zone and 2020 Unit Discuss Relocation in Beijing" [高新区就 2020 部队搬迁事宜赴京进行磋商会谈], Jiamusi City government website, March 22, 2011, at <http://www.jmsgx.gov.cn/Article/gaoxindongtai/177.html>. Also see "Weekly Bulletin" [每周通报], Jiamusi New High Tech Zone Weekly Bulletin (Issue 9), July 25, 2011.
- ⁹⁵ "Deputy Directors of the City People's Congress" [市人大常委会副主任], December 6, 2005, at http://www.jzsr.gov.cn/news_view.asp?newsid=234. Also see "Director Overview," China Economic Network, undated, at <http://hn.ccngov.cn/hn/jiaozuo/rd.html>.
- ⁹⁶ See "Red Hot Summer, Hot Feelings" [火红的夏, 火热的情], Jiage Daqi City website, July 31, 2005, at <http://www.jgdqsq.gov.cn/dssq/data/shownews.asp?newsid=290>.
- ⁹⁷ The 11th Bureau's Anning office may have a cover designator of the 61291 Unit. It had been broken down into areas, such as Area A, Area B, and so on. The 61291 Unit may have previously been known as the 57389 Unit. An 11th Bureau office in Hanzhong may be the 61090 Unit.
- ⁹⁸ For linkage of the 12th Bureau with the MUCD, see "Human Resources Information" [人才信息], Kunshan Human Resources Market website, undated, at http://www.ksshr.cn/ksasp/unit/SHOWEMPLASP?employee_id=660550. The 12th Bureau likely is directed by Chen Genbao [陈根宝]. It was previously commanded by Ju Qiansheng [巨乾生], with Zeng Qin [曾勤] serving as Political Commissar. See "District leaders Zhou Ping, Cao Liqiang Meet with Unit 61486 Leadership" [区领导周平、曹立强会见 61486 部队领导], Shanghai Zhabei Civil Affairs Bureau, July 14, 2011, at <http://mzj.sh.gov.cn/gb/mzzbq/mzxw/zxxw/userobject1ai637.html>. Also see <http://www.hzsouth.com/nanfang-News-25813/>. The 12th Bureau's Deputy Director is Zhang Kaiwen [张开文]. Third Department 12th Bureau Headquarters appears to be located on 46 Yuexiu Road in Shanghai's Zhabei District [闸北区粤秀路 46 号]. The Jiangnan Institute Remote Sensing Applications [江南遥感应用研究所] shares the same address. The 12th Bureau's former designation was the 57394 Unit.
- ⁹⁹ See "Meeting on Fengyun-3 Ground Application System Held" [风云三号极轨气象卫星地面应用系统一期工程启动会顺利召开], Shinetek website, June 14, 2011, at <http://www.shinetek.com.cn/Cn/View/Company/NewsDetail.aspx?NewsID=100016>.
- ¹⁰⁰ The Third Office is assigned a cover designator of the 61290 Unit. For reference to the SAR study, see "District Leaders Visit Unit officers Night before August 1st" [区领导八一前夕分多路走访慰问部队官兵], Shanghai Baoshan District Committee Organization Department [上海市宝山区委组织部], July 29, 2010, accessed October 31, 2011, <http://www.bsdcj.cn/21/218/20107292187688.html>. And see "Feature Extraction and Target Recognition of SAR Images" [SAR 图像的特征提取与目标识别], *Journal of Sichuan University*, December 2007, at http://science.scu.edu.cn/jsunature_cn/ch/reader/view_abstract.aspx?file_no=20076271.
- ¹⁰¹ The Gangtouzhen [港头镇] site carries of cover designator of the 61296 Unit.
- ¹⁰² The Taicang cover designation is the 61728 Unit and the Hangzhou Daxiaogu Village office may be the 61232 Unit. As an aside, former Third Department Director Qiu Rulin [邱如林] is from Taicang.
- ¹⁰³ The cover designator of the Kunming Yuejia Village [月家村] site has not been identified yet. The 61538 Unit is likely under the Third Bureau.
- ¹⁰⁴ The 12th Bureau's Changchun Xinglongshan Village [兴隆山镇] site may have a cover designator of the 61467 Unit. The Guangzhou site may be the 61148 Unit. References are available upon request.
- ¹⁰⁵ Despite the Nanjing Military Region's absorption of the Fuzhou Military Region, Chengdu Military Region's absorption of the Kunming Military Region, and Lanzhou Military Region absorption of the Xinjiang Military Regions, the TRBs in the absorbed Military Regions remained independent and active. Therefore, Nanjing, Chengdu, and Lanzhou Military Regions each have two TRBs.
- ¹⁰⁶ K'an Chung-kuo: "Intelligence Agencies Exist in Great Numbers, Spies Are Present Everywhere; China's Major Intelligence Departments Fully Exposed," *Chien Shao*, January 1, 2006, No 179, pp 21-27. Also see http://www.rand.org/pubs/conf_proceedings/CF182/CF182.ch4.pdf.
- ¹⁰⁷ For background on the PLA's role in border defense, see Blasko, *The Chinese Army Today*, pp. 70-71.
- ¹⁰⁸ The Beijing MR Technical Reconnaissance Bureau [北京军区司令部技术侦察局] was formerly referred



to as the 52817 Unit. For reference to the 52817 Unit functioning as the MR TRB, see [巴市国土资源局临河区分局], Inner Mongolia Network, November 17, 2009, at http://www.nmg.xinhuanet.com/zt/2009-11/17/content_18270891_4.htm. For reference to Russian linguists, see “Wang Fuxiang – Beijing Foreign Languages University” [王福祥——北京外国语大学], May 7, 2009, at, <http://www.sinoss.net/2009/0507/15185.html>.

¹⁰⁹ The Hohhot office carries an MUCD of the 66196 Unit. The office appears to be in Saihan’s Qiaobaozhen [赛罕区巧报镇]. The Hailar cover designator is the 66367 Unit.

¹¹⁰ See “Center Deputy Director” [中心副主任], Dongcheng District website, December 19, 2008, at <http://zfxgk.cwi.gov.cn/CWXXGK2j.ycs?xxid=10799>. 66019 Unit may be another Beijing MR TRB office.

¹¹¹ “Challenges of Youth” [年轻干部挑重担], *ChinaMil.com*, July 28, 2009, at http://www.chinamil.com.cn/fjbm...2/content_59009.htm.

¹¹² See Translator Association Website, September 29, 2011, at http://www.tac-online.org.cn/ch/tran/2009-09/29/content_3166418.htm.

¹¹³ “Disaster Relief Heroes, Third Activities Report” [“抗震救灾英模灾区行”活动系列报道之三], Guangyuan City Personnel website, June 28, 2010, at <http://www.cbrcw.com/ArticleShow.php?ArticleID=591>.

¹¹⁴ See Brian Grow and Mark Hosenball, “In Cyberspy vs. Cyberspy, China has the Edge,” *Reuters*, April 14, 2011, at <http://www.reuters.com/article/2011/04/14/us-china-usa-cyberespionage-idUSTRE73D24220110414>.

¹¹⁵ Specifically, the Chengdu Second TRB address is #158 Yangdong East Road [教场东路 158 号]. The unit’s old MUCD is the 35006 Unit.

¹¹⁶ See “Rather than Preaching as an Outsider, Better to Conduct Actual Work inside the System” [与其坐而论道不如进入体制做实事], Yangcheng Nightly News, May 31, 2011, at http://www.ycwb.com/ePaper/ycwb/html/2011-05/31/content_1125197.htm. The unit’s old MUCD may be the 75775 Unit.

¹¹⁷ See “Chen Ping, Deputy Director of District People’s Congress Leads Delegation to Visit Army Unit Officers” [区人大常委会陈平副主任率团慰问驻区某部队官兵], Guangzhou Baiyun District Informatization Office, August 3, 2010, at 2011, <http://lib.by.gov.cn/publicfiles/business/htmlfiles/qmzj/tpxw/201008/300463.html>. One prominent figure, Wan Qingtao [万庆涛], is a graduate of the Luoyang Language Academy, then was assigned to Wulumuqi.

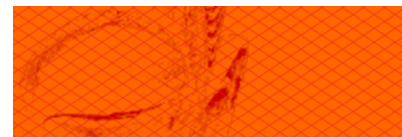
¹¹⁸ More specifically, the Huadu office, assigned a cover designator of the 75773 Unit, appears to be located in Tanbuzhen Jiangjuntan [花都区炭步镇将军潭] village. For reference to the 75774 Unit in the Baiyun District, see “Guangzhou Military Region 75774 Unit” [广州 军区 75774 部队], China Guangzhou Network, June 13, 2006, at http://www.guangzhou.gov.cn/node_559/node_1077/2006/06/13/1150186550110483.shtml.

¹¹⁹ The Nan’ao County [汕头市南澳县] office may have a cover designator of the 75766 Unit. See “Media Revealed Guangzhou Military Region Electronic Intercept and Monitor Unit And Its Intense Struggles Against Adversaries” [媒体披露广州军区电子侦听部队与敌方激烈对抗], *Nang Fang Wang*, April 3, 2008, at http://news.ifeng.com/mil/2/200804/0403_340_475195.shtml. The Guangzhou MR TRB office in Sanya is likely designated as the 77577 Unit. Another possible affiliated unit in the Shantou area is the 75780 Unit.

¹²⁰ See “Jiang Minzhou, Research Heroine: Scientific Research is The Straight Path To Future Information Warfare” [科研女杰江旻舟: 科研直通未来信息战场], *Xinhua News*, May 26, 2009, at http://www.chinamil.com.cn/site1/xwpdxw/2009-05/26/content_1777553.htm.

¹²¹ See “Grand Opening of the Grand Transportation Awards Ceremony Hosted by City’s Public Security Bureau” [市公安局隆重召开大运安保总结表彰大会], Shenzhen China website, September 16, 2011, at http://www.shenzhen.com.cn/cn/xxgk/bmdt/201109/t20110916_1730122.htm. The Eighth Bureau may be the 75778 Unit.

¹²² The Ninth Office appears to have a cover designator of the 75779 Unit. See “Research on Worm Target



Discovery Strategies” [網絡蠕蟲目標發現策略研究], *Computer Application and Software*, 2008(25-1), at http://d.wanfangdata.com.cn/Periodical_jsjyyyrj200801095.aspx.

¹²³ “Jinan Military Grand Industry Technology Co., Ltd” [济南军创伟业科技有限公司], Made-in-China website, December 26, 2008, at <http://cn.made-in-china.com/showroom/cmm200>.

¹²⁴ [济南市 2005 年军转干部公务员培训班名单], Jinan City Manpower Resources and Social Security Administration website, at <http://www.jnhrss.gov.cn/Contents/UploadFiles/2005118104431344.xls>.

¹²⁵ See “Leadership Visit to Army Unit 72959 in Wenshang Neighborhood” [药山街道有关领导走访驻地 72959 部队], Wenshang District website, July 26, 2011, at http://www.tianqiao.gov.cn/art/2011/7/26/art_119_40983.html.

¹²⁶ See “Tianqiao District to Convene Award Ceremony for the Sixth Consecutive Year” [天桥区召开争创全省双拥模范区“六连冠”动员暨双拥先进表彰大会], Jinan City Tianqiao District government website, May 28, 2010, at http://www.tianqiao.gov.cn/art/2010/5/28/art_117_19440.html; As of mid-2010, Commander is Yan Lei [颜磊] and Political Commissar was Li Junqing [李君清]. See “Yaoshan District Leadership Pays Visit to 72959 Unit” [药山办事处领导走访慰问 72959 部队官兵], Tianqiao District website, July 26, 2010, at <http://www.tqdj.gov.cn/?sel=pic&InfoID=5431>. For reference to English, see <http://www.jingxianglawfirm.com/d271988642.htm>.

¹²⁷ See [军营奉献青春 税海续写春秋--记威海地税稽查局主任科员贾继军], Weihai City Taxation Bureau website, undated, at <http://sdwh-l-tax.gov.cn/form.asp?lanmuid=100441&id=106753>.

¹²⁸ More specifically, the Lanzhou MR First TRB is in the Qilihe [七里河] District village of Baliyao [八里窑].

¹²⁹ See “Do Not Over Work and Lose Health” [莫让“拼命三郎”拼掉了健康], *PLA Daily*, March 25, 2010, accessed October 31, 2011, posted on <http://mil.news.sina.com.cn/2010-03-25/0734588073.html>. Also see “Lanzhou military Region’s First Technical Reconnaissance Bureau Travels to Qilihe District” [兰州军区第一技术侦察局走访七里河区], Qilihe District People’s Government website, January 20, 2009, at http://www.qlhzwdt.com/qlhweb/news_view.asp?newsid=3369.

¹³⁰ For an interesting overview of the Second TRB’s scope, see Zhu Wenjun and Gao Lu, “Small Entities Also Have a Big Stage” [小支部也有大舞台], *PLA Daily*, August 28, 2011, at http://www.chinamil.com.cn/jfjbmap/content/2011-08/28/content_65740.htm. Subordinate units appear to include the 69022 Unit at 库车县 and the Second Bureau (69036 Unit).

¹³¹ Subordinate office MUCDs are: Kashi’s Shule County (69018 Unit), Altay (69022 Unit), and Yining (69023 Unit). Elements of the 69023 Unit also seem to have a presence in Hotian. Wang Guofu [王国富] was 69018 Unit Commander as of mid-2010. Peng Lixin [彭立新] appears to be Political Commissar. Among various sources, see “Loving Civil-Military Unit” [爱心涌军民情], Kashi School website, April 1, 2010, at <http://www.ks2z.com/ReadNews.asp?NewsID=1479>. The 69018 Unit is located in the vicinity of the Third Department’s 61865 Unit.

¹³² Commander of the Nanjing MR First Technical Reconnaissance Bureau, formerly the 83597 Unit, is said to be Shao Baoxiang [邵宝祥] and Ping Xingzhong [平兴中] is said to be Political Commissar.

¹³³ References available upon request. The Nanjing MR 1st Bureau Third Office may be the 73613 Unit. The Sixth Office may be the 73616 Unit.

¹³⁴ See “Wu Yuxin” [吴玉新], Heibai Science and Technology Teachers College, College of Foreign Languages website, accessed October 31, 2011, <http://wyxy.hevttc.com/YShow.aspx?ECLAS1=2&ECLAS2=23&EXWID=86>.

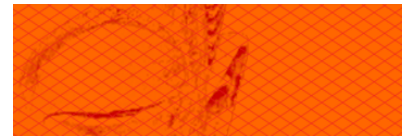
¹³⁵ The Jianxin office has an MUCD of the 73633 Unit.

¹³⁶ MUCDs for units in Fuzhou’s Hongshan [洪山] village are: First Office (73631 Unit), Second Office (73632 Unit), Fourth Office (73633 Unit), Fifth Office (73635 Unit), Sixth Office (73636 Unit), and Seventh Office (73637 Unit).

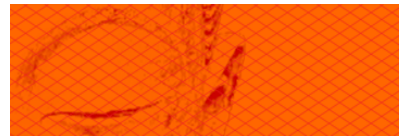
¹³⁷ References available upon request. The Eighth Bureau has a cover designator of the 73638 Unit.

¹³⁸ References available upon request.

¹³⁹ See Jiang Mingyuan, Ning Bo, and Yong Jing, “Five Characteristics of Air Force Equipment Informatization” [信息化空军武器装备的五大特征], *Aeronautical Science and Technology*, 2004(6), at http://d.wanfangdata.com.cn/Periodical_hkkxjs200406009.aspx.



- ¹⁴⁰ See Guo Yujie, “Research on Computer Information Security Architecture” [计算机信息安全体系研究], *Computer Programming Skills and Maintenance*, 2011(10), at http://d.wanfangdata.com.cn/periodical_dnbciqywh201110050.aspx. Guo is from the 95847 Unit. As a side note, PLAAF SIGINT units were previously organized into technical service institutes [技术勤务所]. Based on unit members authoring publications regarding Russian language training, another possible candidate for a PLAAF TRB office is the 95869 Unit in Hohhot City.
- ¹⁴¹ Other references indicate the Air Force Second TRB headquarters may be based in Xiamen.
- ¹⁴² The cover designation for the PLAAF Second TRB site on Dongjing Mountain [东京山] is the 95846 Unit. The neighboring Nanjing MR TRB facility is the Eighth Office (73638 Unit). For Western coverage of the Dongjing Mountain SIGINT site, see Wendell Minnick, “Old Docs, New Images Reveal China Spy Base,” *Defense News*, March 1, 2010, at <http://minnickarticles.blogspot.com/2010/03/old-docs-new-images-reveal-china-spy.html>.
- ¹⁴³ The Shanghai office may be located in Fengxian [奉贤] Fengchengzhen [奉城镇] and have an MUCD of the 95826 Unit. However, the 95826 Unit has also been noted in the Guangzhou City area. It’s possible that the unit could have a direction finding mission, with elements in both Shanghai and Guangzhou. For reference to the Xiamen office (95807 Unit), see “Unit 95807 Stationed in Xiamen Utilizes “Three Promises” to Service Citizens [驻厦 95807 部队拥政爱民 “三承诺”服务群众], Fujian Province National Defense Education Network, July 21, 2011, accessed November 1, 2011, http://mil.fjsen.com/2011-07/21/content_5281181.htm. The PLAAF Second TRB unit in Xintang [新塘] is the Sixth Office, which may have a cover designator of the 95834 Unit. See “Notice to Units in the Xintang Region” [关于调整新塘地区党建联席会会员单位及理事会成员的通知], Tianhe District website, November 1, 2010, at http://www.thnet.gov.cn/xxgk/TH98/201102/t20110228_4699.html. Another Air Force Second TRB office may be the 95813 Unit in Fuzhou. The training unit cover designator is the 95957 Unit.
- ¹⁴⁴ The PLAAF Third TRB may have a cover designator of the 95879 Unit. Fenghuangshan [凤凰山] is located in Chengdu’s northern suburbs. See “College Holds Meeting on 95879 Unit Masters Thesis Leaders Conference” [学院召开“电子科技大学—95879 部队在职硕士研究生学位论文指导会”], University of Electronic Science and Technology (UESTC) website, May 3, 2011, at <http://www.ee.uestc.edu.cn/2008/index/detail.php?id=5051>.
- ¹⁴⁵ See “Chengdu Pengwei Industrial Co., Ltd.” [成都鹏伟实业有限公司], 55RC.com, accessed November 1, 2011, at <http://www.55rc.com/company/job/info/37679/524306.html>. The Hetian [和田] site may have a cover designator of the 95864 Unit.
- ¹⁴⁶ The Navy Second TRB likely has a cover designator of the 92762 Unit. For one reference to the Xiamen office, see “Xiamen City Haohe Trading Company” [厦门市好和惠商贸有限公司], Xiamen City Simen District business portal, undated, at <http://www.smgxh.org/honorBusiness/detail.asp?id=356>. For reference to the Eighth Office in Wenzhou, see “Affectionately Support the Military on Army Day” [八一拥军 军地深情], Wenzhou Kuaile Corporation website, July 28, 2010, at <http://www.wzkuailu.com/Newsmain.asp?id=214>.
- ¹⁴⁷ References available upon request.
- ¹⁴⁸ For an example of research supporting the Fourth Department ELINT mission, see Wu Shilong, Luo Jingqing, and Liu Youjun “Passive Location by Single Reconnaissance Satellite Based on Spatial Spectrum Estimation” [基于空间谱估计的单星侦察无源定位], *Shanghai Aerospace*, June 2005, at http://www.lw23.com/pdf_9588991b-8dd2-441a-baeb-3e576ca77a2f/lunwen.pdf. Gong Liangliang, Wang Yunliang, and Luo Jingqing, “Radar Electromagnetic Environment Simulation in Satellite Reconnaissance” [基于卫星侦察的雷达电磁环境仿真], *Modern Defense Technology*, 2008 36(3), at http://d.wanfangdata.com.cn/periodical_xdfyjs200803031.aspx. The authors are from the GSD Fourth Department’s Electronic Engineering Academy in Hefei.
- ¹⁴⁹ As of mid-2010, GSD Fourth Department Director is Major General Wan Xiaoyuan [万晓援]. Born in December 1952, Wan previously directed the Fourth Department’s Technology and Equipment Department, served as the department deputy director, and Deputy Commander, 1st Group Army. He was promoted to Major General in July 2004. Former GSD 54th Research Institute Director Senior Colonel Hao Yueli [郝叶力] was promoted to Fourth Department Deputy Director in 2010. Fourth



Department Political Department Director is Lu Chunxiang [卢春祥].

¹⁵⁰ Director of the Hainan GSD 4th Department Regiment [61764 Unit] is Jin Guodong [靳国栋], as of 2009. One indication of the unit having satellite jamming responsibilities is the number of articles published by its members. See, for example, Li Bin and Jin Guodong, “Analysis on GPS Jamming” [浅析GPS 干扰技术], *Electronic Countermeasures*, January 2009, pp. 39-42; Jin Guodong and Li Suoku, “On Broadband Communications Satellites [宽带卫星通信探析], *Electro-Optical Systems*, April 2008, pp. 16-31; and Zhang Ming and Li Suoku, “Space Information Warfare and International Space Law [空间信息作战与国际空间法], *Armament Command and Technology Academy Journal*, February 2003; and Xiang Hanfei, Li Suoku, and Han Honglin, “Analysis of GPS System Countermeasures,” [GPS 系统对抗若干分析], *Tracking and Communications*, October 2008.

¹⁵¹ See “Ongoing Attacks, Increasing Capabilities, and Problems of Net Governance,” *InfoWar Monitor*, March 11, 2011, at <http://www.infowar-monitor.net/2011/03/ongoing-attacks-increasing-capabilities-and-problems-of-net-governance/>.